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The Magazine for Information Executives

WHAT WORKS:

Wireless
Best Practices
for Maximum
Payoff

Page 53

Portals
They're Not
Just for HR
Anymore

Page 70

Leasing
When It
Can Save
You Money

Page 78

OHS CIO Steve Cooper (right) and Treasury CIO Jim Flyzik have been tasked with setting up the IT for the proposed Department of Homeland Security.

170,000 PEOPLE, 22 AGENCIES, HUNDREDS OF INCOMPATIBLE SYSTEMS

NOW INTEGRATE IT ALL FOR HOMELAND SECURITY

THE STORY BEGINS ON PAGE 44

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Publication
Editors



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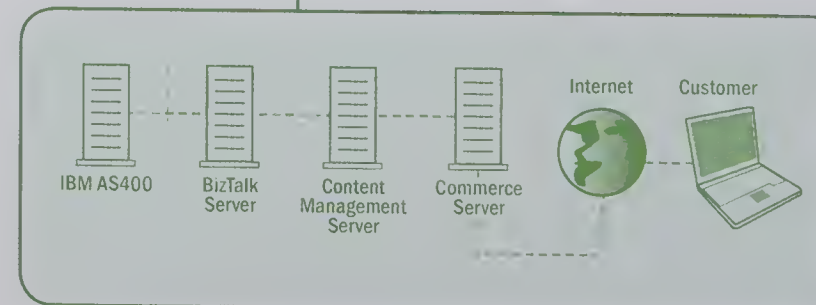
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an existing ERP system, enabling the Royal Canadian Mint to offer customers a richer and more personalized experience.

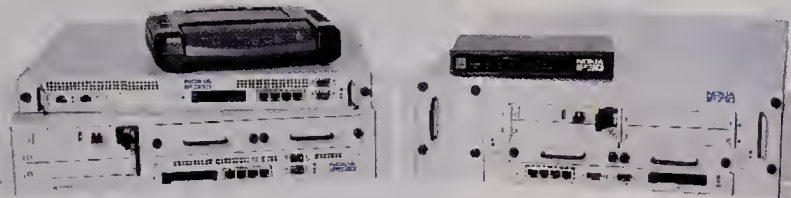


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VOL. 16 • NO. 5 • DECEMBER 1, 2002

Cover Story

SECURITY | 44

INTEGRATING AMERICA

The federal government's homeland security efforts promise to be the biggest change management challenge of all time.

By Todd Datz

COVER PHOTO BY RON HOLTZ

The Office of Homeland Security's IT leadership team—Steve Cooper (left) and Jim Flyzik—liken their integration challenge to a simultaneous merger, acquisition and startup.

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Features

WIRELESS

When Wireless Works | 53

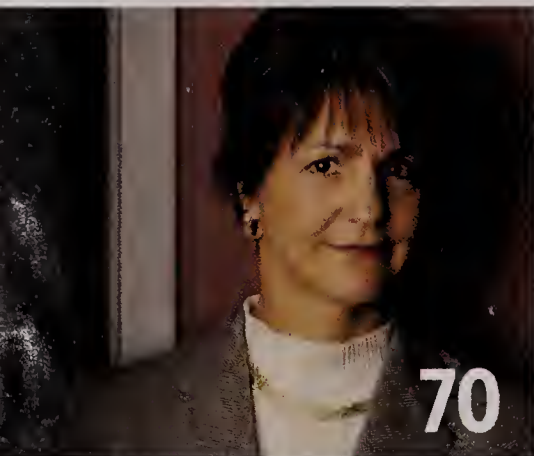
The ROI for wireless was once assumed to be a given. Today, many consider it anything but. But if you follow these emerging best practices, your project can achieve many happy returns.

By Ben Worthen

INTERVIEW | E-COMMERCE

Covisint's Last Chance | 62

Can an old car guy come out of retirement and save one of the icons of the new economy? In an exclusive Q&A, Harold Kutner says that's exactly what he's going to do. By Christopher Koch



CIOs such as Maysteel's **Mary Fonder** are using Web portals to support new business strategies and postpone IT expenditures. Fonder, for one, was able to put off a full-blown ERP upgrade by using a portal. To read more portal stories, see Page 70.

STRATEGIC PORTALS

Portals Finally Get Down to Business | 70

Portals have been with us since the early days of Internet applications. Now they've come of age, and they're ready to engage customers and business partners. By Elana Varon

BUDGETING STRATEGIES

A Lesson on Leasing | 78

Leasing equipment can be an attractive (and cost-effective) alternative to buying it—if you study these lessons.

By Lafe Low

BOOK EXCERPT | GEEKS & GEEZERS

The Alchemy of Leadership | 84

Four qualities, when mixed together in proper proportion, produce great leaders. By Warren G. Bennis and Robert J. Thomas

MORE ►►►

And now, a few words about data back up:

For the tech crowd:

BrightStor™ Storage Software

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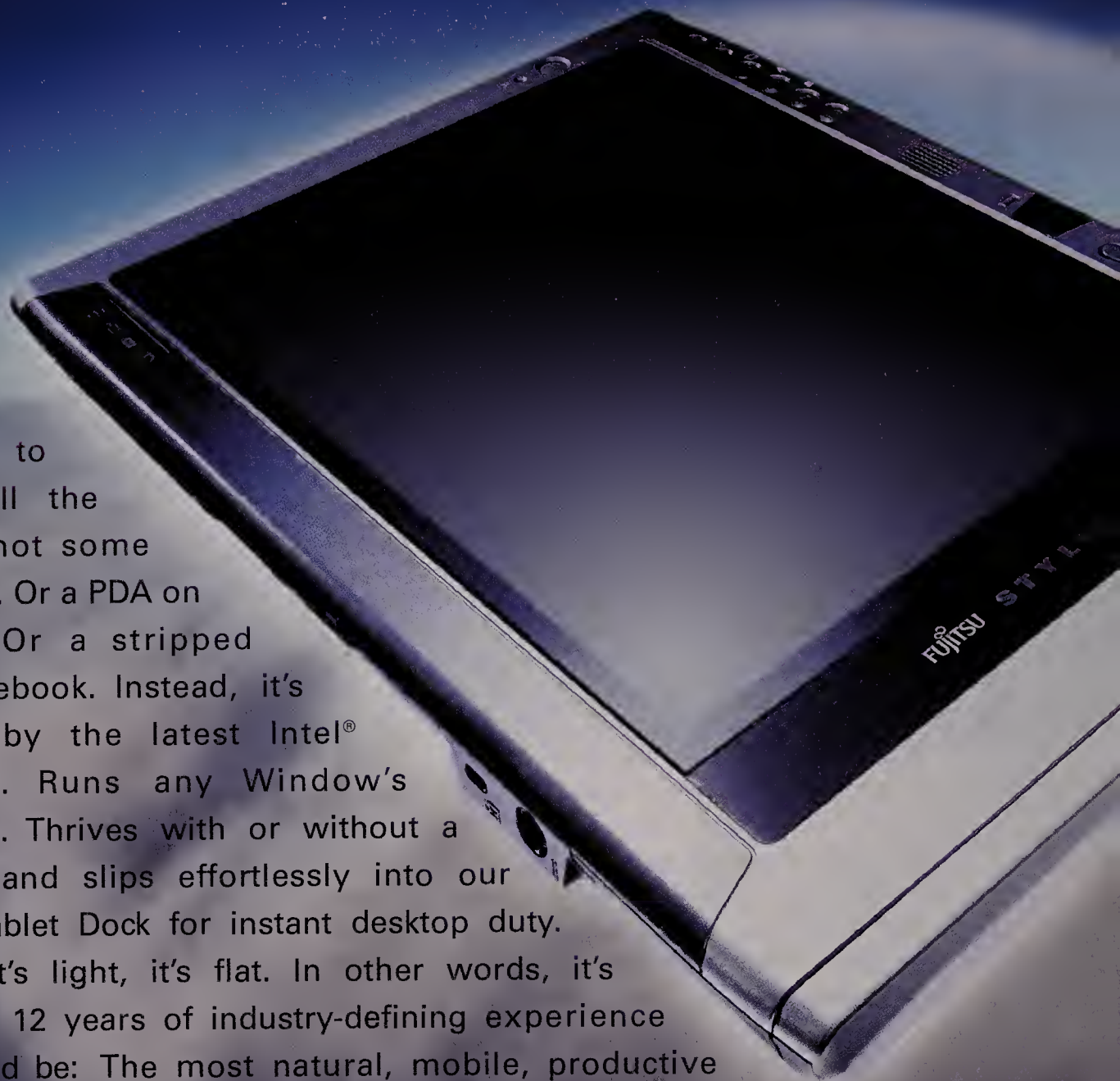
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Unreliable = Bad.



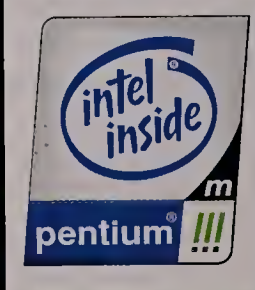
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Columns

CIO OBSERVER Zero Visibility | 36

Change is to business leaders what bad weather is to pilots. It's all about acting on the most relevant data.

By Jerry Gregoire

MAKING I.T. WORK Support Users | 40

If IT ducks responsibility for training users, it gives up control of innovation.

By Michael Schrage

CAREER COUNSEL To B (School) or Not to B (School) | 114

That is the question when it comes to deciding how best to further your career. Career counselor Mark Polansky is here to answer reader questions.

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TRENDLINES | 24

Dock workers vs. IT; Doing the WWash; Gift ideas for CIOs. *And more*

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Get serious about Linux as a Microsoft alternative.

ON THE MOVE | 32

CIOs on the go—see where your IT peers are working now.

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Your Guide to Managing

The Utility of Humility

Think you know what leadership is? Management guru Jim Collins might beg to differ. *By Edward Prewitt*

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The CIO's Green Mile: Ease the pain of your budget presentation.

By Susan H. Cramm

EMERGING TECHNOLOGY | 92

Identity management tools can help CIOs gain control of who gets access to what and when. *By Meridith Levinson*

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Palm unveils its latest line of PDAs.

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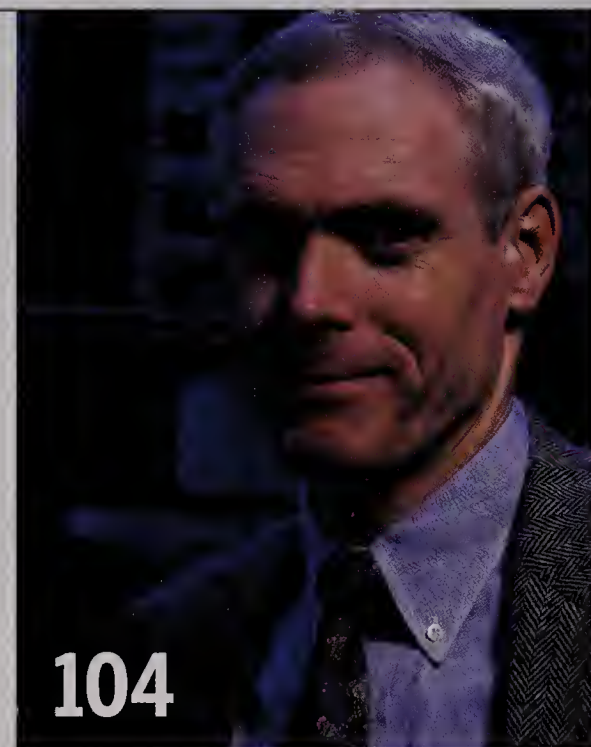
Supersmall sensors help detect molecules.

COMPANY TO WATCH | 100

Sigaba's technology can help keep communications under wraps.

PUNDIT | 102

Intranet search tools must break some ties to their Internet cousins.



Management guru **Jim Collins** says that the self-serving, charismatic CEOs who once served as role models for ambitious managers make poor leaders.

In Every Issue

FROM THE EDITOR The Declaration of Integration | 16

Two CIOs are undertaking a huge IT challenge for America. *By Abbie Lundberg*

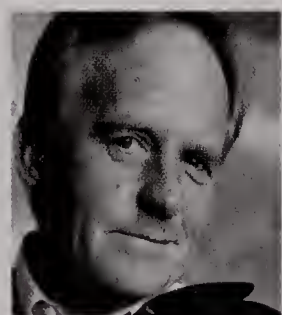
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EXECUTIVE SUMMARY | 120

Abstracts of all the feature stories found in this issue.



“For CIOs, the fundamental nature, value and impact of change is not about the if or the when. It’s about our ability to lead the way to a favorable outcome.”

—CIO columnist Jerry Gregoire on leading change Page 36

Did we break a barrier? Or did we break new ground?



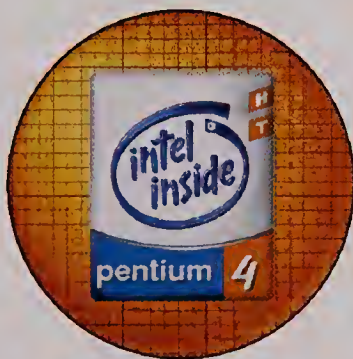
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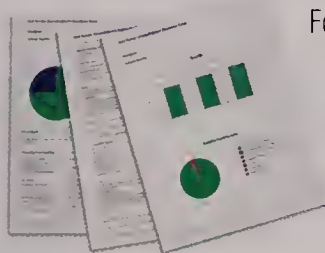
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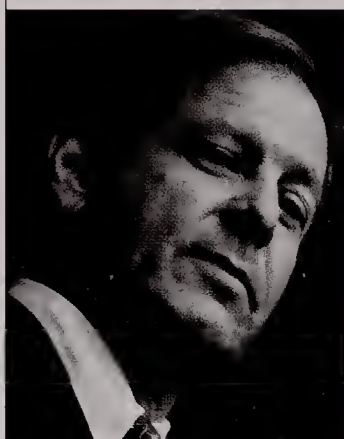
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WEB >connections

Interactive features from December 1 to December 14



Steve Cooper, CIO
and senior director
for information
integration at the
Office of Homeland
Security.

WEIGH IN

Uncle Sam needs your integration advice

While we wait for the Department of Homeland Security to get the congressional go-ahead, one CIO is charged with meeting the challenges of technological integration and employee collaboration (see **Integrating America**, Page 44).

What lessons from your own integration efforts can the feds use? Go online and share your advice.

KNOW MORE

Leasing Glossary

Know your bargain purchase option from your hell-or-high-water clause? Don't get taken for a ride on your next lease (see **A LESSON ON LEASING**, Page 78). Check in with our online Leasing Glossary and understand the lingo before you sign on the dotted line.

Find links to stories mentioned above in the **WEB CONNECTIONS** box at www.cio.com.

Peer Resources

CIO's sister publications build on stories covered in this issue

ON DARWINMAG.COM: Harold Kutner has been tapped to save Covisint (see Page 62). For the Detroit e-commerce exchange's beginnings, read **Motor City Shake-Up**. www.darwinmag.com

FROM CSO MAGAZINE: Some companies have figured out the ROI on wireless (see Page 53). Others have zapped its security bugs; read **How to Rope In Rowdy Technologies**. www.csoonline.com

ASK THE AUTHOR

What makes a great leader?

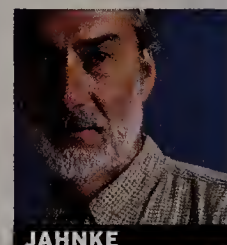
In their new book, *Geeks & Geezers*, coauthors Robert J. Thomas and Warren G. Bennis outline **THE ALCHEMY OF LEADERSHIP** (see Page 87). Share your own insights, or ask Thomas for more, online through Dec. 14.

Editor's Picks

Art Jahnke, Web Editorial Director

Editors are supposed to be literal-minded people, so it's possible that I've chosen the wrong profession. One of my favorite features on CIO.com has very few words and lots of pictures. **The Big Picture** is a chart depicting an important information technology trend, such as the growth in the number of government websites that publish privacy and security policies. The Big Picture is fun, fast and often surprising. Look for it on our homepage each Friday.

Our website logs show that more readers spend more time reading **Analyst Corner** than any other Web-only feature. You can read the latest reports from the most authoritative analysts, such as Current Analysis, Gartner, Giga, IDC, Meta Group and the Yankee Group. Check it out at www.cio.com/analyst, and give us your analysis of the analysts.



JAHNKE

Our Daily Web

MONDAY Tech Tact

Technology Editor Christopher Lindquist covers what's coming.



SCALET

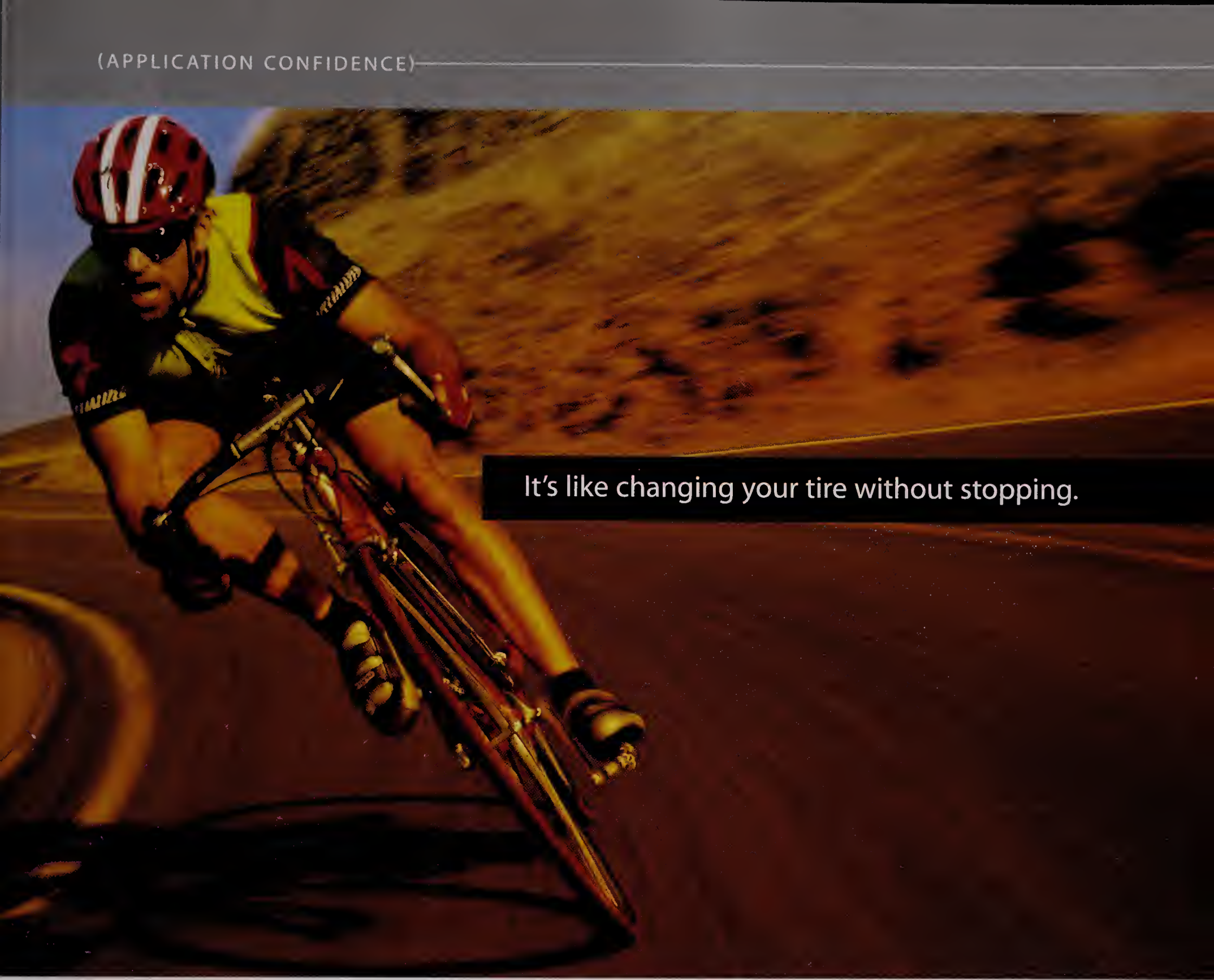
TUESDAY Alarmed Security expert Sarah D. Scalet on what to worry about.

WEDNESDAY Metrics Web Writer Jon Surmacz makes sense of the numbers.

THURSDAY Sound Off Web Editorial Director Art Jahnke opines on ethical dilemmas.

FRIDAY The Big Picture Charts and graphs worth a thousand words.

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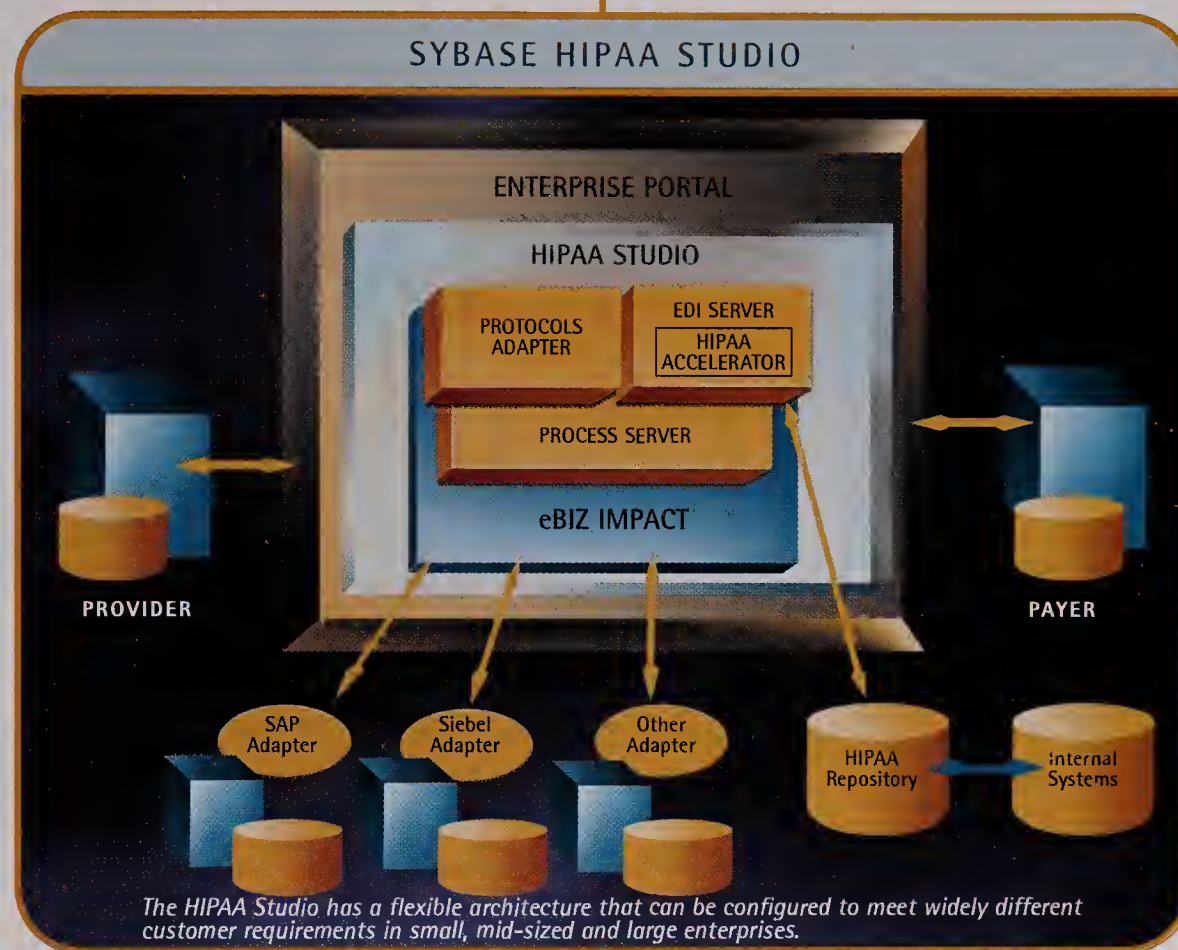
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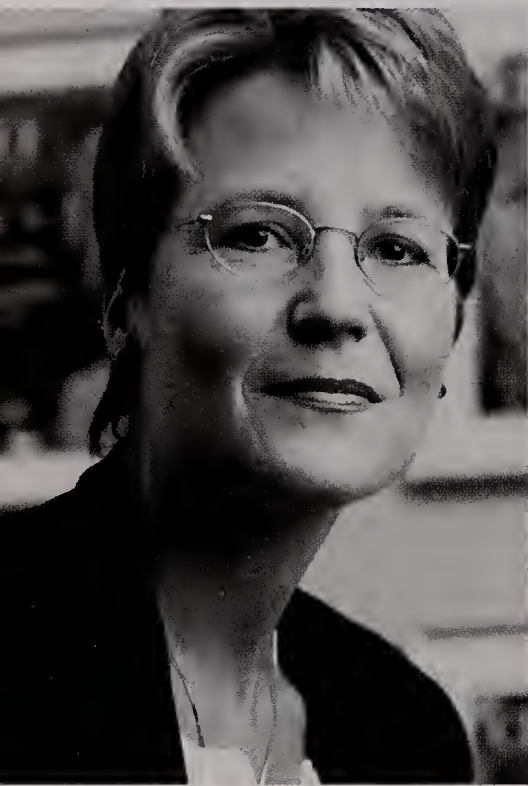
We can help you integrate all the disparate data and business applications running in your enterprise and extend them to any location in the world: platforms, application servers, components, databases, applications, processes, integration brokers, even mobile/wireless solutions. By choosing Sybase, you can preserve and extend your existing infrastructure investments, avoid proprietary traps, and improve efficiency across the enterprise.



The Health Insurance Portability and Accountability Act (HIPAA) deadlines for compliance are rapidly approaching. HIPAA Studio can help you meet the compliance challenge quickly and smoothly.

From the Editor

lundberg@cio.com



CIOs Steve Cooper and Jim Flyzik will need all the advice they can get should the call come through for the new Department of Homeland Security. What words of wisdom do you have to share on integrating systems and people? **WEIGH IN** with your advice on the Web at comment.cio.com/weighin.

The Declaration of Integration

FOR MOST CIOs these days, integration is job one. And no one's facing a greater integration challenge than the two men planning the IT for the United States' proposed new Department of Homeland Security (see "Integrating America," by Todd Datz, beginning on Page 44).

"Planning IT" doesn't really convey the immensity of the job these guys are taking on. According to Steve Cooper, CIO for the Office of Homeland Security, and Jim Flyzik, a senior adviser to Homeland Security boss Tom Ridge on detail from the Treasury Department (where Flyzik serves as CIO), the challenges are fourfold:

- Design an architecture for a new government entity containing 22 existing agencies and programs.
- Modernize or retire hundreds of legacy information systems.
- Establish a working model for knowledge sharing among all these disparate groups.
- Bridge the cultural gaps—some of which have existed for centuries—between the agencies. (The Customs department, for example, has its own flag and uniform.)

Building the technology connections to enable all that will be daunting, but nothing compared with the organizational and process changes that

are at the heart and soul of this new endeavor.

As tough as this assignment is, it's critical. "I would suggest the world has changed considerably since the 1940s," says Flyzik. "It's long overdue that somebody take a look at the government from a functional view instead of an agency-by-agency view."

And what better place to start than with the security of the nation.

If you're the CIO of a large organization, a lot of this will sound familiar. IT organizations have become integration operations more than development shops. There's so much good technology already in place—and so many good packaged options available—the real action for CIOs lies in understanding the best processes for a given activity (whether it's issuing visas or generating invoices) and fitting the disparate technology pieces together to support all that.

Integration in itself is not the goal. The real value will come from getting the right information (good, clean, timely, reliable data) to the right people at the right time, and giving those people the tools to find the meaning in it.

That seems like a really tall order to me. As good as they are, Cooper and Flyzik are going to need all the help they can get.

Allie Lundberg

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Reader Feedback

SOLID SOFTWARE EQUALS INTEGRITY

With respect to "Building Solid Software," Aug. 15, 2002 [available at www.cio.com/printlinks], while the technology and tools have reached a mind-boggling level of sophistication, simple concepts that build integrity into a system are not practiced (or even known) by technologists today because it seems so unglamorous and bland. How many applications print a checklist or an edit list for all the error conditions before carrying out huge updates and reporting cycles? It is a fallacy to believe that everything is so online and so real-time that we do not need such things anymore. In an automated "integration" application that costs upward of a quarter-million dollars, if an incoming file has a customer code that does not exist on the base master, the incoming record is simply ignored. How many project managers and project sponsors will insist on building such "old-world" capabilities in their software? This is another breed of bugs that needs equally serious attention if we have to build solid software.

Buck Kulkarni • President, Enterprise Solutions Group • Genesys International
White Plains, N.Y. • buck.kulkarni@igenesys.com

THOUGHTS ON I.T. DECISIONS?

I read with great interest Jerry Gregoire's column, "A Seat on the Board," [see www.cio.com/printlinks] in the Oct. 1, 2002, issue.



Given the recent disclosures about malfeasance and other lack of oversight by the executive management and boards of certain companies, what are your thoughts on how companies make business decisions regarding IT investments and projects?

The superficiality of understanding regarding these projects is amazing. Especially considering that they are

affecting the organization's customer-facing people and their customers.

James Mercante

President

The White Blackbird Group

Landenberg, Pa.

jmercante@aol.com

[Editor's note: No one would argue that bogus ROI claims and superficial understanding of IT investment risks and rewards are not still rampant in companies. Could an outside CIO on the board make a big difference? We think so. But are boards ready to embrace CIOs and what they have to offer? Not widely, but signs are pointing to a change. When The Gap clothing chain announced the addition of Bob Martin, one-time CIO of Wal-Mart, to its board, the company emphasized the value of his IT expertise. We'll be writing more soon about CIOs on boards.]

CRUISE CONTROL

It was fun reading your article ["Over Bored," CIO Observer, Sept. 1, 2002, www.cio.com/printlinks].

Being a vendor myself, I could really relate to many of your observations. But the perennial question is: Even if I have a great product/service, how do I get it to the attention of the decision-maker (who's often the CIO), who is already so deluged with information?

Vinay Bansal

Princeton, N.J.

vinay.bansal@bsil.com

[A number of CIO editors have set sail on CIO conference cruises. We've heard from many attendees that the trips are an extremely efficient use of their time. They get the meetings they want, structured in 30-minute intervals back to back. No wasted time. CIOs also tell us that at any conference, the best vendor face time is spent with the company's top leaders, not with the sales or marketing staff.]

CORRECTION

Due to a reporting error in our Oct. 15, 2002, cover story, "Good Stuff Cheap," we wrote that 40 percent of Hewlett-Packard Financial Service's revenue derives from the used equipment market. That 40 percent figure should be attributed to HP's Technology Value Solution Division, a division of HPFS. The correct figure for the percentage of revenue HPFS as a whole derives from the secondary market is 9 percent. We apologize for the error.

WHAT DO YOU THINK?

Send your thoughts and feedback to letters@cio.com. Letters may be edited for length or clarity.



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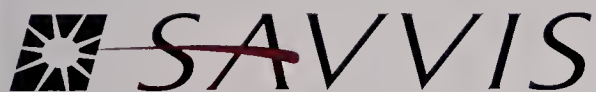
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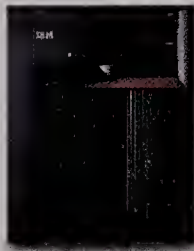
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trendlines

the **NEW** the **HOT** the **UNEXPECTED**

Edited by Lafe Low and Michael Goldberg

C H A N G E M A N A G E M E N T

Dock Workers vs. IT

IT SOUNDS STRAIGHTFORWARD. A business process shows room for improvement. Technology tools appear useful. Management endorses an IT project to improve productivity. Implementation is set to begin.

But this is not just another industry. The business of loading and unloading ships is a heavily unionized workplace, where workers have banded together for job security and better wages for decades. And this fall, a drama that had serious implications for a weakened economy was playing out on the docks of West Coast ports.

Specifically, the International Longshore and Warehouse Union (ILWU), which rep-

resents 42,000 dock workers from San Diego to Seattle (including 10,500 affected by this dispute), staged a work slowdown in September, refusing a contract extension and holding out for a new three-year deal.

In response, the Pacific Maritime Association (PMA), which manages maritime labor agreements for all the ship operators, stevedores and terminal companies that operate in California, Oregon and Washington ports, instituted an 11-day lockout at 29 Pacific ports, costing the U.S. economy an estimated \$1 billion a day.

The dispute is over who will control the new IT. The PMA says the West Coast waterfront, despite the fact that it contains some of the largest ports in the world, is stuck "in a time warp" and needs to implement new technology such as bar code scanners and other cargo-tracking systems to accommodate expected trade growth from Asia. The union says it has no problem with the introduction of more IT in the ports (the Pacific Coast Longshore Contract allows the PMA to use labor-saving devices).

But the union does take issue with its employers outsourcing work on the new systems, and it is holding out for a new contract that would give it control over any jobs that come with the new technology.

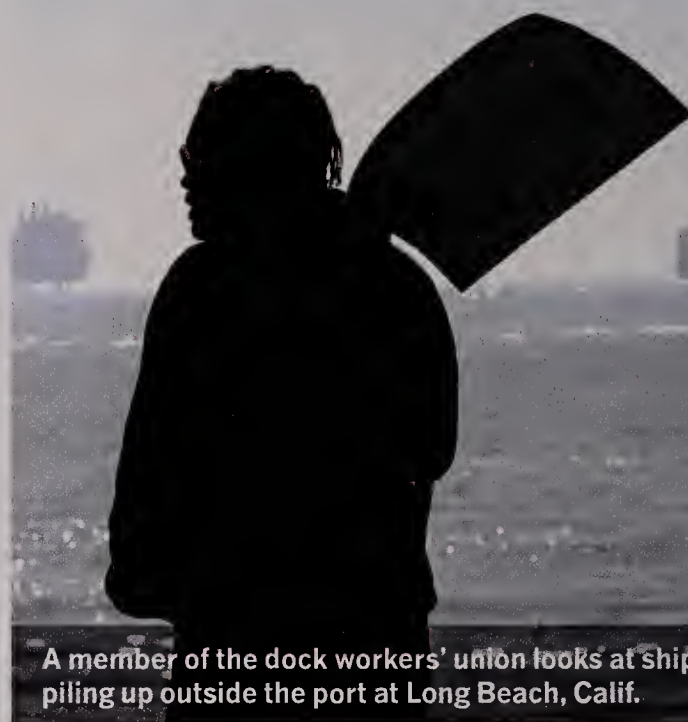
Before Oct. 8, when President Bush invoked the Taft-Hartley Act that ordered dock workers back to the waterfront and

forced the parties into federally mediated talks, the implications of a stalemate were clear. Containers clogged ports with everything from toys and consumer electronics to fruit and meat. Retailers worried about stocking in-demand gifts as the holidays approached. Farmers feared crops would rot before getting to market.

The hope now is that the required 80-day cooling-off period will give ship operators time to clear the docks of gridlock during their peak season. (Shortly after reopening, the PMA reported that worker productivity was down 25 percent compared with preshutdown levels. The union said management should hire more union workers to move the cargo.)

It's the kind of showdown we've seen in other industries in the past, from textiles to the auto industry to the railroads, says Anthony Townsend, an associate professor of MIS at Iowa State University. "Any time

Continued on Page 26



A member of the dock workers' union looks at ships piling up outside the port at Long Beach, Calif.

E - T A I L

Busy Online Santas

IF THE ECONOMY remains sluggish and retailers are jittery about the holidays, they can take comfort in forecasts that consumers will buy more gifts online this season. Jupiter Research sees good tidings for e-tailers as a group, projecting that online sales between Nov. 1 and Dec. 31 will reach \$13.1 billion, up 17 percent from last year's Christmas season take.

Jupiter isn't alone in the forecast biz, of course. An even rosier view comes from Forrester Research, where researchers expect U.S. online consumer spending to reach \$72.1 billion by the time the books close on 2002. That's up 41 percent over 2001. For this holiday season specifically, Forrester is forecasting \$9.5 billion, up from \$8.3 billion in 2001. —Lafe Low



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Dock Workers

Continued from Page 24

there's a confrontation between a labor organization and an employer over technology, it's always due to [workers'] fear that IT will eliminate jobs."

Stevedores and dock clerks will likely see a loss of jobs as new bar code scanners, robotics and other systems enter the workplace. But the resulting work will be more rewarding, Townsend says. "The employees that remain will have a higher skill level, not be as easily replaced and have even more bargaining power." That's already happened to some extent, with workers down at the docks now earning as much as six figures—\$82,895 for class A longshore workers, \$118,444 for clerks and \$157,352 for foremen.

Whatever happens, Townsend says, it's clear that the longshoremen won't be able to avoid the effects of IT and outsourcing forever, even if workers' concerns about outsourcing costing them jobs are justified.

"The trend has been for American businesses to outsource things they don't do well" to provide needed expertise, he adds. "This is a necessity for the ports to remain competitive. They're not doing anything every other business hasn't already done. They're just doing it 15 years later." —Stephanie Overby

HOMELAND SECURITY

Washington Reaches Out to State CIOs

THE INTEGRATION of so many federal agencies involved in homeland security (see "Integrating America," Page 44) will require that hundreds of thousands of federal workers show an unprecedented level of cooperation. But the collaboration efforts don't stop there. The IT leadership of the Office of Homeland Security (OHS) is working out information-sharing plans with state and local governments and the private sector.

Steve Cooper, who is CIO and senior director of information integration at the OHS, spent a couple of days last summer with members of the National Association of State CIOs (NASCIO) to flesh out arrangements for sharing information. State and local leaders want to make sure that the relevant security information they generate gets pushed up to Washington. (Cooper says that in this early phase, the states will represent the voice of local governments.) "We have to troll for information in Internet time to send to Washington so those guys can see it as well," says Scott McPherson, CIO of the Florida Department of Corrections and director of information security at the Florida Technology Office.

This collaboration will mean a sea change from the past, when the feds have said, "This is how you're going to do it," says Rock Regan, Connecticut's CIO and president of NASCIO.

Cooper is reaching out to industry too. He says OHS has been in touch with the Electronic Industry Association, the Private Sector Council and the Industry Advisory Council. "We've gone to those groups and asked, Would you be willing to create a task group? And second, Would your members be willing to let [OHS IT leaders] come and have a dialogue? This is how we're beginning to engage the private sector," he says.

Cooper is keen on garnering lots of input into the homeland security architecture plan. "It's not just federal CIOs sitting in a room by themselves, operating in a vacuum, [with a plan to] dump something on the rest of the nation and say, OK, here it is," he says, sounding like a man who believes that national security is a team—not a Washington—effort.

—Todd Datz

Doing the WWWash

THE LAUNDRY ROOM is no longer a place for college students to find dates. By swiping a card or pushing a few cell phone buttons, students can use e-Suds washing machines to pay for laundry, check machine availability and add detergent without setting foot in the laundromat. Several universities, including MIT and Boston College, are currently testing the Web-enabled washing machines.

The e-Suds machines notify students via

e-mail or pager when machines are available or when their laundry is done. Students can also add detergent and fabric softener via the website. Laundromat owners can check machine performance and usage patterns online. The technology behind the machines comes from IBM and Wayne, Pa.-based payment management vendor USA Technologies, which together host websites that provide functions like payment authorization, inventory management and report generation.

So far, online laundry seems to be a hit. Ninety-five percent of the students at Boston College's Vanderslice Hall say they would like to see this service continue. Thirty-eight percent say they are actually doing laundry more frequently. Junior Mike Joyce likes e-Suds because he can check machine availability. Although he has had some trouble logging on to the system in the past, it's better now. "You don't have to drag everything there when there are no free machines," he says. Not only that. The e-Suds machines spell the end of another chore: the search for quarters.

—Julie Hanson



A large pink elephant is superimposed over a photograph of a business meeting. The elephant's head and trunk are in the foreground, looking towards the meeting. In the background, several business professionals are seated around a long conference table, and one man is standing and presenting. The scene is set in a modern office with large windows.

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By the Numbers

By Lorraine Cosgrove Ware

Get Serious About Linux

IDC PREDICTS that the worldwide Linux server installed base will grow 24.7 percent from 2001 to 2006. Linux is carving out a place for itself, according to IDC Research Director Al Gillen (IDC is a sister company to *CIO*'s publisher). *CIO* research also shows a growing interest in Linux as a Microsoft operating system alternative.

HP, IBM and Sun have announced plans

for Linux offerings—servers running the Linux operating system and support services— nudging the open-source operating system into the mainstream. "These partnerships signal an elevation of Linux to a top-tier platform," Gillen says. "CIOs will be able to get the same level of support for Linux as they have for other platforms like AS/400 or HP UX."

Best Practices

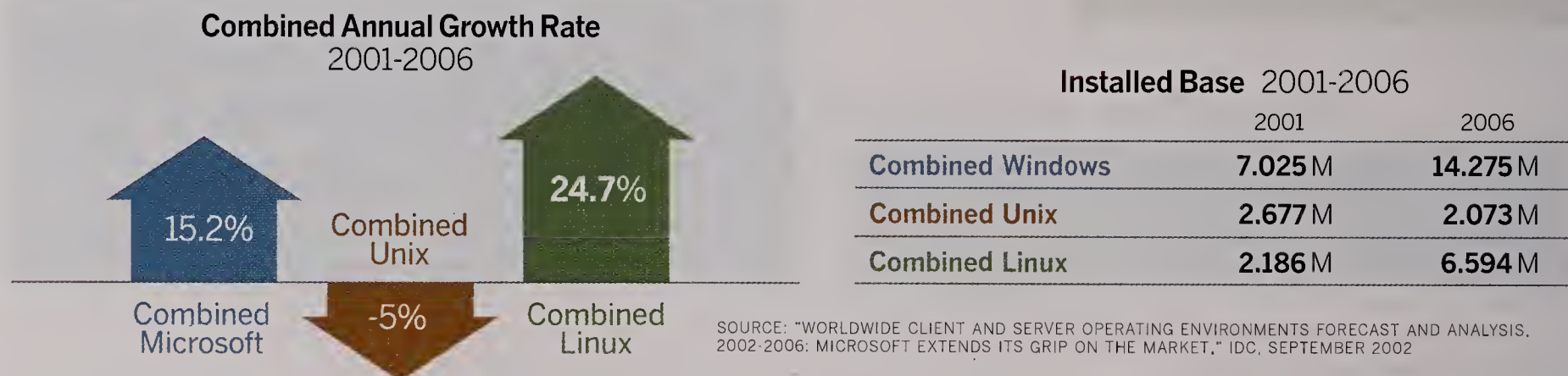
Determine if Linux is the right fit for your organization. IT organizations that are already using Unix will adapt to a Linux environment fairly smoothly.

Bundle Linux with other open-source software for maximum value. Linux software is available either free on the network or as a low-cost packaged product that can be deployed on low-cost, high-volume Intel-based systems.

Consider total cost of ownership. While software and server costs for Linux environments are considerably lower than Unix and other operating environments, IDC's Al Gillen cautions CIOs to factor in staffing costs to their cost of ownership equation.

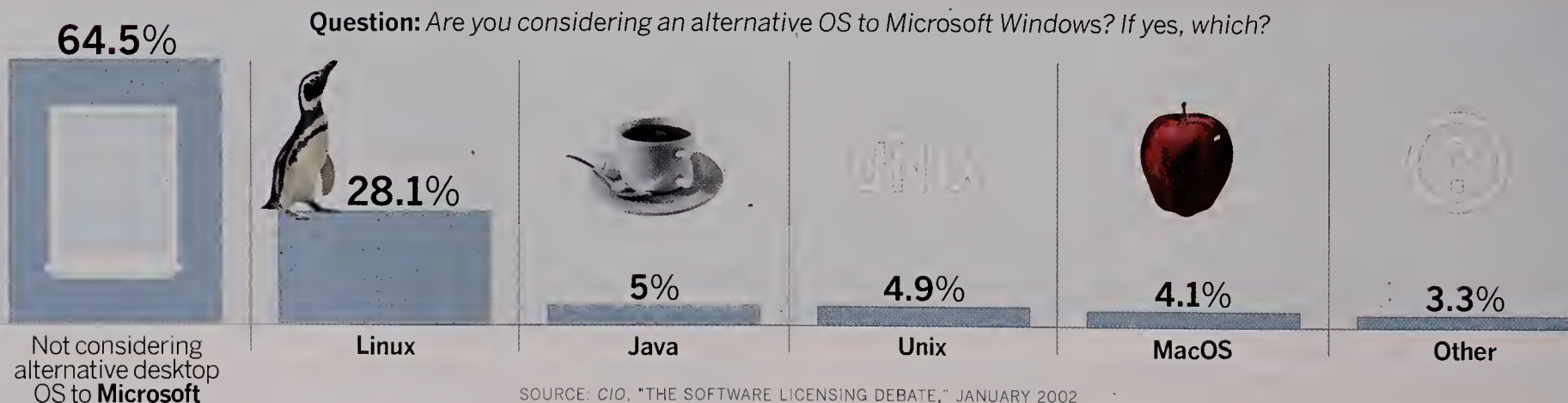
Linux Installed Base Is Growing

Linux is on the rise. While it will not replace Microsoft as the market leader any time soon, IDC predicts the Linux installed base will grow at a faster rate than both Unix and Windows.



Linux as Microsoft Alternative

While the majority of CIOs will continue to use Microsoft, many are considering a Linux OS alternative



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Shown at their wedding last year, Sandy Marenberg met his wife, Roxane Sokolove, using the online dating service JDate.com.

BY THEIR SECOND DATE, Roxane Sokolove knew that Sandy Marenberg was The One.

It was Oct. 27, 2000, and Sandy, then 52 and a real estate developer, showed up at the door with Halloween cupcakes for Roxane's 8-year-old son, Evan. Such a gesture, says Roxane, a lawyer, "was really sweet."

Sandy and Roxane, 46, met through JDate.com, an Internet dating service aimed at Jewish singles. Fifteen months after that second date, the couple married at the American Visionary Art Museum in Baltimore.

The Marenbergs are one of more than 1,000 married couples who've met through JDate, according to statistics from the 5-year-old company. The impressive number of successful *shidukhs* (Yiddish for matches) gives JDate credibility in the eyes of potential members. Another reason for JDate's owners to celebrate: Its parent company, MatchNet, has been

profitable for more than a year and continues to grow.

Two Israelis, Joseph Shapira and Alon Carmel, founded JDate in 1997. They formed MatchNet in 1998, and today it's a \$7.8 million dating dynamo based in Beverly Hills, Calif., and traded on the Neuer Markt, Germany's Nasdaq. For the first half of 2002, MatchNet posted \$937,288 in profits with a margin of 12 percent.

MatchNet generates much of its revenue from subscriptions to its seven dating sites—JDate.com, JDate.co.il (for Israelis), American-Singles.com, MatchNet.de (for Germans), MatchNet.co.uk (for Brits), MatchNet.com.au (for Aussies), Gay11.com and its personal photo album site Facelink.com. Other revenue sources include advertising and events like ski trips for service members. Plans call for an online dating service for Asian-Americans.

Though Gail Laguna, a spokeswoman for MatchNet, wouldn't disclose the percent of JDate's 350,000 members who pay for subscriptions, she did say that JDate is MatchNet's most profitable site and that the average paid JDate subscription lasts three months.

One potential source of embarrassment: Sandy and Roxane's profiles remained on JDate long after they were engaged. "Her picture was still up until our wedding day!" Sandy says, joking it was like his bride's insurance policy. Roxane adds: "It's hard to get your face out of that system, seriously. That may be the only glitch."

—Meridith Levinson

This Date in IT History

2

The great race to produce a program that could divide the computer screen into separate "windows" and run multiple programs simultaneously culminates at the **Comdex show in 1983**. More than a dozen software companies demo their versions of this technology, most incorporating a point-and-click interface with a mouse but with zero integration between programs. Microsoft eventually beats the pack and wins the Windows War.

6

The first commercial carrier of electricity opens for business in **1922** in Utica, N.Y. Built by **General Electric**, the Utica Gas and Electric Co. plant houses transmitters, power lines and receivers.

7

Bill Gates announces in **1995** that Microsoft will shift its business strategy entirely to the Internet. The declaration came seven months after Gates issued his famous memo titled "The Internet Tidal Wave," which said the Net was the most important single development since the IBM PC.

12

Due to a flaw in the **Intel Pentium chip**, IBM ceases shipments of Pentium-powered computers on this date in **1994**. Intel aggravates the user community by admitting it knew about the bug—which miscalculated certain floating-point math equations—prior to shipping. Intel soon announced it would replace chips only if users proved that they engaged in the work that the bug impinged on. Later, following a public outcry, Intel concedes to replace any returned chip—no questions asked. After six months, only 3 percent of customers request replacement chips.

19

The **Altair 8800** goes on sale for \$397 in **1974** sparking the PC revolution. Harvard student Bill Gates, intrigued after reading about the Altair in an issue of *Popular Electronics* in 1975, travels to Albuquerque, N.M., with friend Paul Allen to demo their modified version of the Basic programming language for Altair maker Ed Roberts. The demo is a success and Gates drops out of school to cofound MicroSoft in Albuquerque.

20

Cancelmoose avenges the innocence of an advertising-free Internet in **1994**. After writer Michael Wolff aggravates the Usenet public by peppering bulletin boards with 150 messages advertising his new book *Net Chat*, an unknown user calling himself "Cancelmoose" defends the chat rooms with his trusty "**cancelbot**" program, taking out Wolff's messages one by one.

24

Using a 429-foot-high antenna and an alternator driven by a steam engine, **professor Reginald Fessenden** broadcasts the first radio program from Brant Rock, Mass., on Christmas Eve in **1906**. Fessenden reads poetry and plays a violin rendition of "O Holy Night" during the broadcast, which he concludes by asking anyone listening to contact him and report the clarity of the signal. Radio operators tracking Morse code on ships hundreds of miles out in the Atlantic are flabbergasted by what they heard.

SOURCES: THE HISTORY CHANNEL, CREATIVE COMPUTING MAGAZINE, EDUCAUSE, BBC NEWS, STRATEGIC ADVANTAGE, NATIONAL MUSEUM OF BROADCASTING

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On the Move

By Meredith Levinson

Walk on the Wild Side

ON WEEKDAY MORNINGS, Kim Bahrami's alarm goes off by 5 a.m. She pulls on her sweats and heads into the early dawn for a brisk walk. In those quiet moments when she's striding along the neighborhood streets alone, the CIO of the state of Florida has time to brace herself for the coming day.

"It's a lifesaver," Bahrami says of her walks. "I always joke that if I didn't get this exercise, I'd probably kill someone."

The past year and a half have indeed been tough for Bahrami. She has had to completely restructure Florida's IT operations, cleaning up the mess in the state's technology office left by her predecessor.

When Bahrami took over as Florida's acting CIO in July 2001, she inherited a maelstrom of controversy. The previous CIO, Roy Cales, had just resigned after the state comptroller released a scathing audit questioning his purchasing practices and alleging conflicts of interest. Cales was also hit with an unrelated fraud charge.

First, Bahrami had to regain the trust of Florida's citizens, legislators and agency leaders, and rebuild morale among her staff. To quickly get her arms around the situation, Bahrami gathered her key IT managers and private sector partners to spend a weekend hashing out a tactical plan for the technology office.

Within two weeks, they had established six initiatives—enhancing the Myflorida.com state portal, beefing up information security, streamlining the technology services desk, installing a next-generation network, consolidating data centers and aggregating IT purchasing. The goal was to wring the excess costs out of the technology office and make it more efficient.

Next, Bahrami changed the content and direction of staff meetings after realizing the discussions weren't always relevant and didn't always lead to action. "I spent a lot of time and energy putting together a



Florida CIO Kim Bahrami is cleaning up the mess she inherited when she took the position.

strong team that understood the need to communicate openly and regularly. They [understood] that if there were issues, that we had to lay them out on the table, make a decision and move forward," she says.

She earned credibility in the eyes of the state legislature by aligning herself with those in power in the governor's office,

including Gov. Jeb Bush. Whenever she had to stand before the legislature to ask for funding, she always walked in with a team of her staff members and representatives from other agencies that had a stake in the initiative she was presenting. They would brief the legislature together. "There's strength in numbers," she says.

To rebuild staff morale, Bahrami instituted an awards and recognition program called Tech Triumph. She also holds monthly informal brown-bag lunch sessions where IT employees discuss the projects they're currently working on. Bahrami says the idea behind the sessions was to foster a sense of camaraderie among IT employees and give them an opportunity to share knowledge.

Her myriad efforts are finally showing results. Within several months of being named acting CIO, she released an enhanced version of Myflorida.com. Previously, the site didn't even have a functioning search engine. Now it includes an FAQ page, e-commerce applications and easy ways for public servants to obtain policy information. "That catapulted us into success and helped us get additional dollars to move forward," she says. She's still moving forward, one step at a time.

NEWS OF OTHER MOVES

Astrid Fontaine, general manager of e-business for Mercedes-Benz USA, has been named general manager of information technology and CIO. Fontaine is based at the company's Montvale, N.J., headquarters.

Apparel manufacturer Liz Claiborne has promoted **John Sullivan** to senior vice president and CIO. Sullivan now reports to Paul R. Charron, chairman and CEO of the New York City-based company.

Joshua R. Jewett joins Family Dollar Stores as senior vice president and CIO. He comes to the Matthews, N.C.-based discount retailer from management consultancy Answerthink.

Sony Music Entertainment Senior Vice President and CIO **Bud Howey** has moved to Sony Corp. of America based in New York City. There, he will wear the mantle senior vice president of IT.

MAKING THE CASE

INTEL IT USES TEST RESULTS, ROI TO GAIN BUSINESS SUPPORT FOR WLAN DEPLOYMENT

Wireless LANs without an ROI Wouldn't Fly

That was the stark reality for global chipmaker Intel Corporation's IT unit, which had helped the firm realize huge savings by driving from 20 percent to 65 percent the number of its 80,000-person workforce using notebook PCs.

Intel IT wanted to move closer to its goal of enabling anytime, anywhere computing by rolling out WLANs, which it was convinced would unlock their investment in high-performance notebooks by enabling workers to be significantly more productive. But putting a price tag on anticipated employee productivity gains—a soft benefit—was difficult.

Working together, Intel IT and Intel Finance tackled the challenge of measuring time savings and quantifying (in dollars) the productivity gains realized by early WLAN users and pilot test participants. Buoyed by those results, the two groups built a solid business case that demonstrates a healthy ROI for WLANs.

Subsequently, Intel IT used this ROI model to justify expanded WLAN deployment to over 80 wireless networks worldwide. CIOs and IT managers can use the same model to overcome a top barrier to widespread WLAN adoption—the difficulty of

measuring time savings and linking productivity gains to a quantifiable ROI.

"Intel IT, with the help of Intel Finance, found that wireless LANs deliver positive ROI in a wide range of usage scenarios and user segments," says Intel Vice President and CIO Doug Busch. "A well-designed program of wireless deployment should produce this kind of ROI in most companies."



halved them again to reflect actual productivity gains.

The team then calculated the value of each user's productivity gains by multiplying the average hourly "burden rate" (salary and benefits) by the number of workdays per year, 235. These conservative figures enabled the group to attach a dollar figure to the annual productivity gains from WLAN usage. To ensure

"Intel IT, with the help of Intel Finance, found that wireless LANs deliver positive ROI in a wide range of usage scenarios and user segments."

—Doug Busch, Vice President and CIO, Intel

Making the Case

Intel IT's plan was straightforward: assign dollar amounts to each component of the business case equation: **Productivity benefits – Startup costs – Sustaining costs (support, etc) = ROI**, and then do the math. The technology unit drew from surveys, interviews and monitoring of early WLAN users to help measure their reported time savings in hours per day.

The cross-functional team took the numbers from WLAN users in five segments: engineering/product management, manufacturing, sales, marketing and support, and then halved the figures to adjust for human judgment, and then took the results and

that the business case was all-inclusive and thorough, Intel Finance took the productivity gains per user, per year, and factored in such costs as the time value of money, tax consequences and depreciation. The per-user, per-year productivity numbers ranged from \$2,165 to \$5,816.

Also included in the business case were estimated infrastructure startup costs for small, medium and large buildings, as well as sustaining costs, which typically consist of the burden rates associated with support personnel. Quantifying these costs requires that IT groups estimate what percent of their time will be devoted to the WLAN. The Intel team estimated the



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Tips for Making the Business Case for WLAN

Quantifying the benefits of wireless networking is a challenge. Here are the proof points that scored high and ultimately helped influence the senior business executives at Intel:

- Wireless workers maintain more frequent contact with customers and coworkers;
- Increased wireless connectivity enables faster decision-making;
- Employees with WLAN enjoy greater flexibility to work almost anywhere, anytime;
- Widening deployment of public WLANs provides employees with opportunities for additional flexibility and productivity;
- WLAN leverages the value you are already receiving from your investment in high-performance mobile PCs;
- New wireless standards incorporate security measures that are stronger than initial out-of-the-box solutions.

Source: Intel Corporation

time required per installation and multiplied it by the burden rate of the support personnel, then again factored in the time value of money, tax consequences and depreciation. One key piece of advice from Intel IT: It's far more productive to team with your finance unit from the start, and tap into its knowledge base when making a business case for a technology based on soft benefits, than to go it alone and meet only when presenting the case to cost-conscious senior managers.

"Working with your finance group on a wireless LAN pilot program is a great first step for IT managers who are either on the fence or are having trouble getting buy-in," explains the Intel Finance manager who assisted Intel IT. "We helped them get an understanding of what the gains are, and provided momentum."

ROI in Action

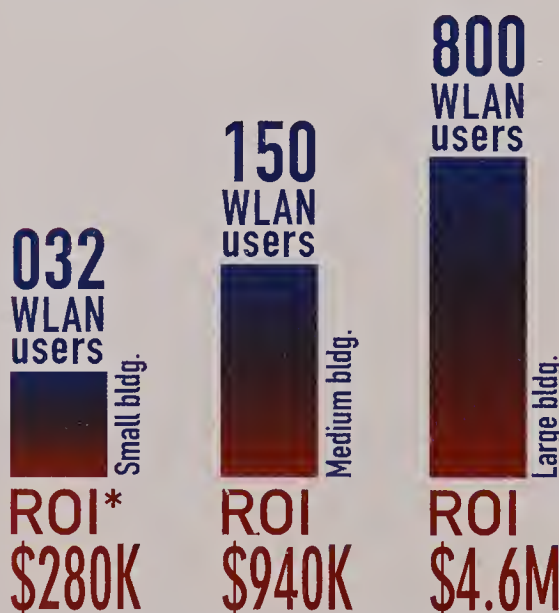
Based on Intel's calculations and experience over a three-year period, companies can see a healthy ROI on WLANs. Intel estimated a net present value ROI of \$4.6 million for the large building scenario, \$940,000 for a medium building deployment, and \$280,000 for the small building installation. See chart at right.

This means that start-up and sustaining costs combined over three years still equal just one-tenth to one-twentieth of a conservative productivity benefit realized over the same period.

And the more WLAN users, the better. Intel IT points out that as a company adds more users to a WLAN, the cost per user plummets, while the ROI climbs. As a result, it doesn't take many users to pay for the infrastructure.

By the Numbers

Based on Intel's experience, ROI goes up as WLAN users increase.



Source: Intel IT, Wireless LANs: Linking Productivity Gains to ROI.
*ROI is net present value over three years

Not If But When

While the Intel team made the business case by quantifying user productivity increases from the use of WLANs, there are many other ancillary benefits that users can reap. After the pilots, roughly 160 Intel WLAN users were surveyed with results asserting that:

- 68% of respondents indicate they use the WLAN continuously or most of the time during work hours;
- 62%, if given a choice between a wireless and a wired connection, choose wireless wherever possible;
- The average WLAN user saves a significant amount of time previously spent in meetings.

Asked to reflect on Intel IT's business case for WLANs and the early results from the company's ambitious ongoing global deployment program, CIO Busch is direct. "IT groups have what they need to change the way businesses consider wireless LAN deployments. The ROI is clearly there for WLAN. It's no longer a decision of whether to deploy, but rather how, when, and where." •

Want to Know More?

Get the complete white paper this article is based on along with other in-depth wireless networking guides and white papers at:

www.intel.com/go/wireless

These guides include:

- Wireless LANs: Linking Productivity Gains to ROI
- Five Steps to Deploying a Wireless LAN
- Wireless 802.11 Security in a Corporate Environment

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As information technology permeates all areas of the business, CIOs have found that they are expected to be much more than technology experts. They need to be leaders, motivators, communicators, educators and collaborators. They need to work within the organization's ethics, values and culture, navigate the politics, set realistic expectations. They need to establish themselves as trusted partners throughout the organization. And yes — they still need to keep current with technologies that will significantly impact the business.

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HOLIDAY GIFT GUIDE

Six Gifts for the CIO Who Has Everything

By Tom Wailgum



Smoke Saver

If you're a true cigar lover, you need a traveling humidor to safely transport your smokes. Humidipak's Model 1150 humidor is the perfect size humidor for home and travel use. It comes with a two-way humidification system that responds to outside humidity fluctuations, keeping the oils and flavors in your fine cigars fresh. It holds 15 cigars up to eight inches long in three trays. The Model 1150 comes in four colors, and sells for \$59.95. You'll find it (along with other shapes and sizes of humidors and cigar-lover paraphernalia) at www.armoredhumidor.com.

All in One Phone

About the only thing the Nokia 9290 Communicator won't do is microwave popcorn. This digital wireless phone allows the user to view documents and spreadsheets and does quintuple duty: as a PC with a qwerty keyboard; a PDA to help you manage your appointments and contact lists; an e-mail program, giving you access to send and receive e-mail with attachments; an Internet conduit with wireless access to the Web; and a multimedia player so that you can view video and digital images and listen to music. This technological jack-of-all-trades sells for \$599. See www.nokiausa.com.

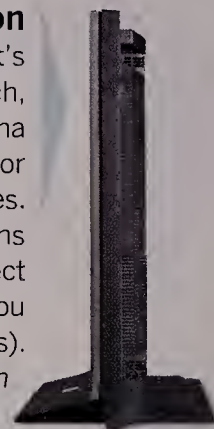
We Won't Get Lost Again

If you're still hesitant to ask for directions—and who isn't?—be sure to ask for a Magellan SporTrak GPS receiver this year. Whether you're driving, hiking or boating, the SporTrak can tell you your location (within three meters) using data from as many as 12 different GPS satellites. It's lightweight, rugged and waterproof, and it retails for \$170. To locate one for yourself, check out www.magellangps.com.



Plasma Infusion

Plasma TVs are all the rage, and it's easy to see why. Samsung's 42-inch, enhanced-definition digital plasma flat-screen TV has a 16:9 aspect ratio for crisp colors and flicker-free images. It's also just 4 inches deep and weighs a little more than 70 pounds—perfect for picturelike wall-mounting (if you can hide those DVD and VCR cords). Cost: \$5,000. See www.samsung.com for more information.

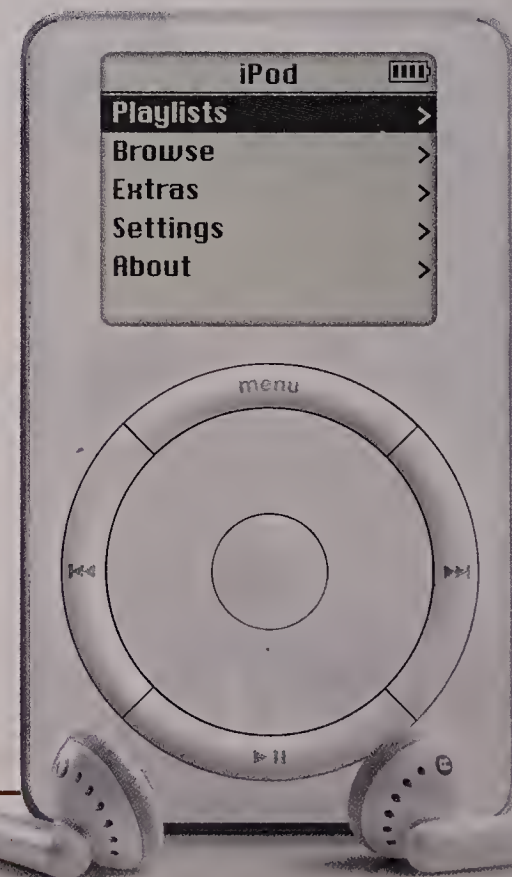


Golfer's Pilgrimage

What golfing purist wouldn't enjoy a luxurious return to the isle where the game was born? Answer: None. On this seven-day, six-night excursion to Scotland, discriminating golfers will play five rounds of golf on five legendary courses—from Turnberry Ailsa Course and Prestwick Old Course to Gleneagles King's and finally on to St. Andrew's New and Old Courses. All rounds conclude with a 30-minute massage—perfect for soothing tired muscles after braving the windswept courses and championship layouts. The world-class lodging ranges from oceanfront at the Turnberry Hotel to The Old Course Hotel, perched along the 17th fairway. A special package lets nongolfing companions soak up Scottish hospitality, sight-seeing and spa treatments. The cost of the trip (based on two couples traveling together) is \$6,345 per person. For more information on this and other packages offered by Golf International, call 800 833-1389 or visit www.golfinternational.com.

Music on the Move

PC users rejoice—you don't need a Macintosh to download, store and play music with Apple's popular iPod MP3 player. The iPod is now fully integrated with the MusicMatch Jukebox Plus media player for the PC. The iPod comes in 5GB, 10GB and 20GB models and holds up to 400 CDs' worth of content. FireWire technology lets you download an entire CD in 15 seconds. You can also download and listen to audiobooks from Audible.com. The 5GB iPod starts at \$299. For more info on iPod specs and prices, Mac and PC users can visit www.apple.com.



"To meet ever-increasing demand for our online products and services, Toyota turned to Akamai to instantly extend the scale, performance and reach of its infrastructure at a fraction of the cost associated with traditional build-out."

—Barbra Cooper
Group Vice President and CIO
Toyota Motor Sales, U.S.A., Inc.



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The Competitive Edge for E-Business

Jerry Gregoire | CIO Observer

Viewing the World Without Spin

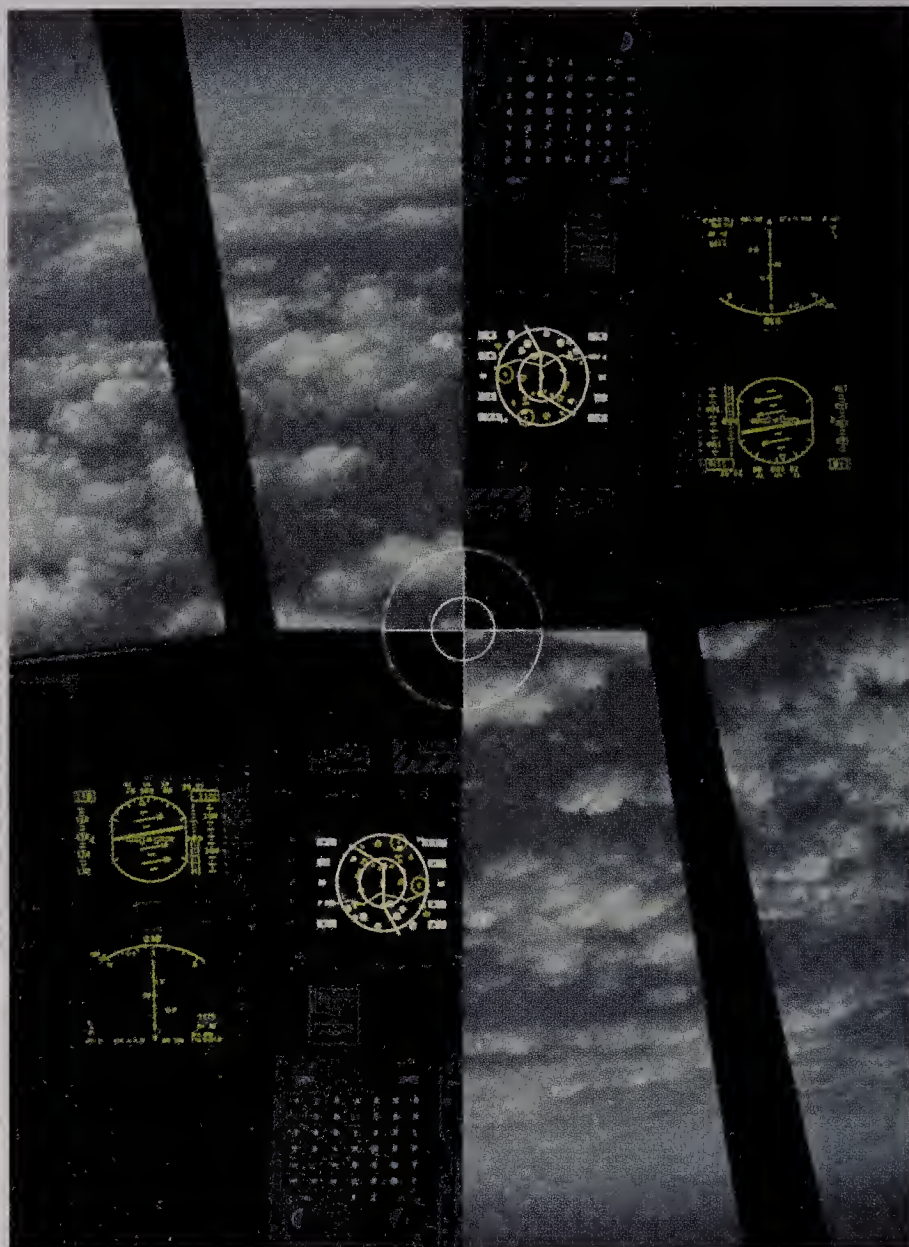
Zero Visibility

Change is to business leaders what bad weather is to pilots. It's all about acting on the most relevant data.

WHEN I WAS A KID, ABOUT 5 OR 6, I looked an awful lot like Howdy Doody, the kids-show marionette from the '50s, complete with the red hair, freckles, big grin, you get the idea. Except for the wooden head, I don't resemble Howdy Doody anymore, but I don't look like Osama bin Laden either. Since Sept. 11th, I've developed a heartfelt kinship with anyone who believes they've been the victim of profiling. In a transparent effort to demonstrate their even-handedness, the folks at every airport security checkpoint look at me like I'm radioactive. I can count on one hand the number of times I've made it to my airplane without having my luggage emptied, and I've spent more time shoeless than Joe Jackson.

Enough, already. After my last trip, I dusted off my old log-book and private pilot's certificate and headed for the best flight school in town to reacquire long-lost skills (such as they were), determined not to fly commercial airlines again.

Things have to get pretty seriously screwed up to get me to change my routine. At a very fundamental and perhaps irrational level, I distrust and dislike change, and I'm not a bit embarrassed to say so. Furthermore, anybody who says they



like change ought to be run through the metal detector again, then strip-searched by Leona Helmsley for being a suspiciously dangerous character. Change isn't a goal, change just is. Imagine your life as a fast trajectory moving toward that large unavoidable target, CHANGE. Don't worry, you're not going to miss it. There's no skill involved. When it comes to our role as CIOs, the fundamental nature, value and impact of change is not, and never was, about the if or the when. It's not about the stated goals or even the journey. It's about our ability to lead the way to a favorable or at least neutral outcome.

Back to piloting for a minute. In order to fly yourself around for business and have any expectation of making the most of your appointments, you've got to be qualified to fly in lousy weather. The qualification is called an instrument rating, and it permits you to fly when you can't see anything out the window, controlling the airplane through clouds and fog and finding

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your way home by watching the instruments in the cockpit.

Sometimes pilots with no outside references to tell them which way is up will suffer a problem called spatial disorientation. During a recent five-year period, there were almost 500 spatial disorientation accidents in the United States. Most of those accidents resulted in one or more fatalities. Panic and emotions overcame the pilot's ability to reason or process information. Spatial disorientation-induced panic explains why, over the years, well-trained pilots haven't righted their airplane, turned on an autopilot or uttered a single word in the minutes preceding a fatal crash. John F. Kennedy Jr.'s crash is probably the best-known recent accident that seems to fit that scenario.

There are two cognitive styles, referred to as field independent and field dependent. Field in this case means context or surroundings. This is important for pilots in training because while most pilots are able to absorb and respond to the critical yet counterintuitive information from their instruments despite what their other senses are telling them, there is a small percentage who have difficulty detaching from sensory inputs. Field-independent people seem to be naturally resistant to sensory overload. They are aware of, but able to separate themselves from, their surroundings. Most of the good CIOs and

senior IT leaders I know fit into the field-independent group.

Field-dependent people, on the other hand, are naturally disposed to focus on the whole. They take in the whole instrument panel rather than the two most important reference instruments—the artificial horizon and the directional gyro. Everything coming through the senses to a field-dependent brain has equal importance—the instruments, the sound of rain against the airplane, the ice forming on the wing and the turbulence felt in the seat of the pants. If the field-dependent person ever gets into a situation where stressors pile up quickly, he may be unable to separate tasks and become overwhelmed. If he survives the overload, he will truthfully answer, "Yes, I saw the warning light, but I couldn't figure out what it meant," or "The horn was so loud I couldn't think."

Sound familiar?

Daniel Goleman, author of the book *Emotional Intelligence*, calls this situation emotional hijacking. If you haven't already, you should consider picking up a copy of Goleman's book. It contains some interesting insights and more than a few explanations for some of the strange behavior exhibited by others in your senior team meetings.

The point of this long explanation is that change, especially for

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those being buffeted by it, can be experienced as a form of spatial disorientation. We see it often enough. Systems development departments come to a standstill while programmers gather in hallways to gossip about impending layoffs; critical projects languish while everybody and their mom is given veto power for fear that the leader in charge hasn't sufficiently covered his rump.

Change, regardless of the outcome, is bad weather. Outcomes, regardless of intent, are uncertain and often surprising. In bad weather, great CIOs and their organization survive by concentrating on what's important and aggressively shut out the nonsense that is not. That takes a fair bit of will and concentration and no small amount of courage, but it's how you make it home without crashing.

So, how do you tell the important stuff from the nonsense? As I see it, it's a matter of remaining true to IT's core mission and simply setting the rest aside. In a sense, the sole mission of information technology is a form of biotechnology: machines interacting with human organisms to overcome the frailties and limitations of human beings in a state of nature—to make us faster, stronger, smarter and safer. The role of information technology is not to constantly expand and redefine its own mission but to provide the tools for other missions.

Some of what passes for information technology today raises troubling questions about its real contribution to organizational well-being. Are our companies really better off for having systems that spy on employees and customers or for the canned applications we shoehorn our operations into? These questions are ethical and political, and even reach to the spiritual, in a way. On the whole, the people we support and the people we lead seem pretty well adapted to our technologies, at least on the face of it—but there will always be doubts in my mind about whether creativity, productivity and the human spirit thrive best in an oppressively technological environment skewed to detached and impossibly granulated measurement, cost and behavioral control, and relentless connectivity.

As CIO, are you able to tune out the extraneous and zero in on what's most relevant and important to your business? How are you managing in this lousy weather?

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Editor at Large Jerry Gregoire previously served as CIO at Dell Computer and PepsiCo. He welcomes reader feedback at jgregoire@cio.com.



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Michael Schrage | Making IT Work

It's All About the Execution

Support Users

If IT ducks responsibility for training users, it gives up control of innovation

IF I WERE A CIO, the trend that would disturb me most is the growing disintermediation of both training and support. IT is being deliberately bypassed—for both strategic and economic reasons—as its end users increasingly rely on subcontracted help desks and outside consultants for training and help. Let's not ignore the dirty little secret that help desks and power users in the next cubicle are often the real technology trainers in larger companies.

On the surface, this seems to be merely another example of outsourcing. Dig deeper and what we find is that, bit by bit, IT risks losing whatever core competence it has in managing innovation within the company. That's dangerous because digital innovation isn't what IT says, it's what the users actually adopt.

Consequently, the abdication of end user support has not only political repercussions for the organization, it has knowledge management repercussions as well. Perverse incentives are in play. CIOs can legitimately ask if it makes sense for their technical experts to spend time educating people who frequently view upgrades as necessary evils. Outsourcing education, training and support has a definite appeal.

But the impact on effective implementations quickly becomes apparent. Corporate IT has come to resemble the dehumanizing aspects of many large for-profit hospitals. These are high-tech operations filled with technically competent professionals working against the clock and against the odds—but too often, their bedside manner is nothing short of atrocious. Sure, there's the rare person who takes the time to discuss and explain. But, essentially, the patient is viewed as a problem to be solved rather than a human being who might have better things to do than be bedridden.

There are excellent reasons for this. After all, how many HMOs and health insurance plans reimburse doctors and hospitals for their bedside manner and the ability to explain diagnostics and therapies to patients? To my knowledge, none do.

Of course, the more enlightened hospitals understand that no matter how busy things get, informing and supporting patients can be just as important as treating them. No doubt some of that is done to

mitigate the risk of malpractice suits, but there's also a growing recognition that those sorts of practices make for happy and healthier patients. CIOs had better become similarly enlightened.

To be sure, IT-intensive companies spend fortunes on their end user training budgets. But the internal economics are shockingly confused. Should training and support really be IT's responsibility? Why shouldn't HR and marketing kick in? Maybe we should go the chargeback route and have departments pay for their own training and support on an as-needed basis. Or maybe we should simply declare this an enterprise function and charge it to overhead. That way, everybody's responsible but no one's accountable.

Accountability is the central issue. Why? Because a mediocre implementation turns even the best app into a marginal investment; a superior implementation elevates even mediocre apps into strategic assets. More often than not, technical excellence is subordinate to excellent training and support in making that happen.

The problem here is that, for the help desks, consultants and HR, training and support is an end in itself. For IT, training and support are means to an end: the cost-effective use of IT apps.

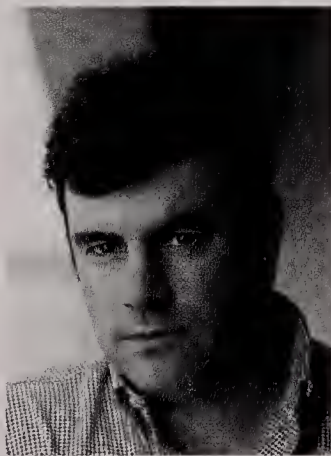
If IT is held directly responsible for how well—or how poorly—its systems are used, CIOs have no choice. They had better commandeer the training and support process to assure that IT doesn't become a victim of the blurring of ends and means. But if the company holds individual departments accountable for their IT IQs, then CIOs need to take a different tack. The CIO challenge becomes making sure that IT has a partnership role in deploying implementations.

The most dangerous thing that can happen to CIOs is for their company to realize that outsiders do a better job of adding value to innovations than they do.

Unless the ultimate destiny of corporate IT is to be outsourced—and you can be sure I will be tracking Procter & Gamble's back-office outsourcing initiative with morbid curiosity—CIOs have little choice but to figure how to embrace training and support as force multipliers for IT's own initiatives.

The money matters far less than the influence. In fact, this is one of those rare organizational circumstances where CIOs would be better off with less money and more influence. When it comes to end user training and support, CIO should stand for Chief Influencing Officer. **CIO**

Michael Schrage is codirector of the MIT Media Lab's eMarkets Initiative and author of *Serious Play*. He can be reached at schrage@media.mit.edu.



OUTSOURCING



DIRECTIONS AND DECISIONS FOR 2003

Survey Results,
Expert Analysis,
Point to the Hottest
Market Trends

About This Report

Getronics, IDG Research, and CIO Magazine's custom publishing group conducted an extensive, multinational survey of IT executives in the summer of 2002. Topics included IT spending past and future, IT and business priorities, and outsourcing. In general, the more than 450 executives in the US and six European countries—United Kingdom, the Netherlands, Italy, Spain, France and Germany—have more in common than major differences. This is the second of two special reports analyzing highlights of the survey. The first report, published in the November 15, 2002, issue of CIO Magazine, focuses on 2003 priorities and IT spending trends.



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AMAZING what a difference a decade or so makes. Back in the fall of 1989, when Eastman Kodak Co. announced the first watershed IT outsourcing deal (10 years, \$250 million), CIOs everywhere greeted the news with disdain. They thought outsourcing would be the ruin of their carefully constructed IT organizations.

Today, 13 years later, CIOs worldwide are building their IT groups around outsourcing. In fact, the recent Getronics/IDG Research survey of IT executives in the US and six European countries reveals that with 30% of IT budgets devoted to external service providers, outsourcing clearly is a major component of IT strategy. As cost control and profitability lead business objectives in 2003, according to the survey participants, outsourcing may look even more attractive.

The survey results, highlighted below, jibe well with the market analysis of industry veteran Peter

Bendor-Samuel, president of Dallas-based Everest Group, a leading outsourcing consultancy. "The business case for outsourcing is far more compelling than it used to be," Bendor-Samuel says. It points to four market trends he foresees in 2003:

■ **A Buyer's Market.** As competition for customers heats up, vendors will lower their prices and raise their service levels;

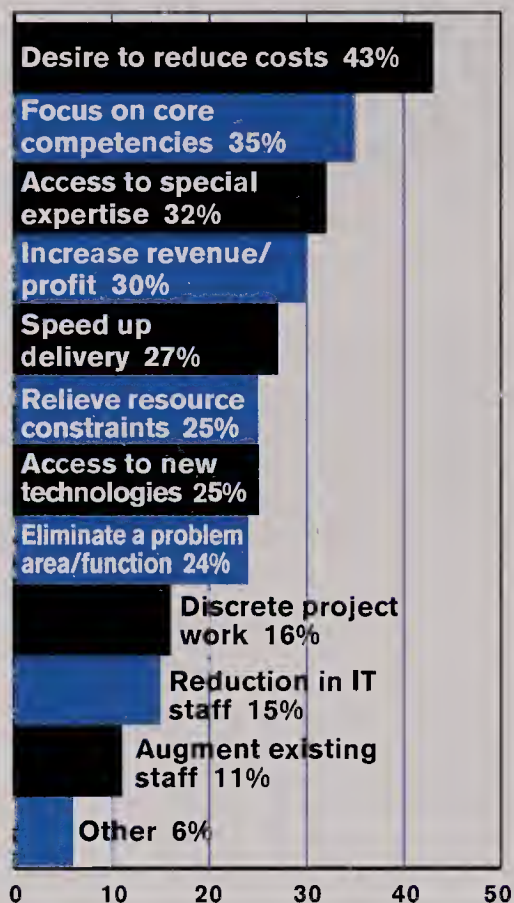
■ **More Outsourcing.** As prices come down and service goes up, companies will be inclined to outsource more IT functions, as well as non-IT business processes such as HR;

■ **More Strategic Outsourcing.** As companies outsource more, they will strategize more about what they outsource, and to whom;

Getronics
BUILDING FUTURES

CHART 1 WHY OUTSOURCE?

What are the key factors driving your company's IT outsourcing decisions for the next 18 months (June 2002-December 2003)?



■ Opportunity for New Entrants.

As the big, veteran outsourcing vendors struggle to adjust their cost structures and service levels, smaller, newer vendors stand to benefit. Best-of-breed outsourcers—specialists in certain areas—may be more attractive than one provider. The client must then manage multiple vendors or select one to be the prime contractor.

The following are some of the outsourcing trends extracted from the survey, annotated with expert analysis from Bendor-Samuel.

(Note: In this survey, external service providers are defined as outsourcers, systems integrators, support/maintenance providers, and/or staff augmentation firms.)

Outsourcing outlook for 2003

The survey finds that, among larger companies, outsourcing is about 30% of IT spending, regardless of company type or home country. While the largest percentage of companies expect spending with service providers to remain the same in 2003 as in 2002, 22% say they will outsource more in 2003 (for more on outsourcing initiatives, see Table 1).

Enterprises are still learning how and why to outsource. Cost reduction is the main reason they cite for adopting outsourcing. Ironically, it is

also the principal reason for decreasing the amount of outsourcing.

In his own market research, Bendor-Samuel sees two key economic trends:

■ **Offshore exuberance** — The offshore outsourcing model (good work, cheap) has proven itself in the marketplace, and has, in fact, become a benchmark.

“People not only believe in the offshore model,” Bendor-Samuel says, “but there’s now an expectation that [outsourcing] cost reduction is possible.”

■ **Changing Landscape** — Offshore providers, with their cut rates and quality results, are taking significant marketshare from the industry’s established veterans. As a result, rates are down, service levels are up and the vendor landscape is changing significantly. “It’s all good news for the buyer,” Bendor-Samuel says.

Reasons for outsourcing depend on corporate strategy

IT outsourcing is clearly an established part of the IT portfolio. The top reasons for outsourcing are cost reduction (43%), focus (35%), and access to special expertise (32%). Resource-related reasons (relieve resource constraints, reduce IT staff and augment IT staff) combine to 51% of the responses (see Chart 1).

Europeans rate providers’ specialized skills as the driving factor behind outsourcing, while US companies favor outsourcing to save time and money.

In 2003, Bendor-Samuel looks for business process outsourcing (BPO) to become an even greater part of the general business portfolio, particularly in HR and finance, where transactional processes can easily be outsourced for quick returns.

TABLE 1 IT Plans for 2003

Do you think you will outsource more, less or the same amount of the following needs next year, in 2003, as compared to the current year, 2002?

	LOCAL AREA NETWORK & CLIENTS	WIDE AREA NETWORK & SERVERS	HELP DESK	DATA CENTER	APPLICATION DEVELOPMENT/ MANAGEMENT	BUSINESS PROCESSES
More	13%	18%	14%	13%	13%	14%
Less	10%	9%	11%	11%	11%	9%
Same	61%	58%	57%	56%	56%	56%
Don't know	16%	15%	18%	20%	20%	21%

Differences in spending between US and Europe are small

While the firms in Europe are generally smaller than those in the US, there were few, and relatively minor, differences in their responses between the continents.

However, Europeans do give outsourcing a higher priority than do Americans. Many have more interest in improving supplier relationships, and feel less pressure to increase revenue through the use of technology. In Europe, outsourcing is motivated less by a desire to cut costs than in the US.

Europeans are more likely to increase their outsourcing of local area networks and wide area networks. US companies are more likely to increase their outsourcing of help desk, applications development and business processes.

Bendor-Samuel agrees that US/European outsourcing differences are few and small. One significant cultural difference he sees: European companies are more inclined to outsource elsewhere in Europe than in Asia, which is the favored marketplace of the US.

One in five companies expects to increase spending on service providers, and more than half plan to keep spending steady in 2003.

The main reasons for increasing outsourcing are vendor expertise (28%), decreasing IT staff (25%), and cost savings (20%).

Among those sites that plan to decrease their outsourcing, 37% cite budgetary concerns. The second most-cited reason is the availability of in-house skills (18%) that highlights the ongoing debate over insourcing versus outsourcing.

Of course, increasing outsourcing and decreasing spending need not be mutually exclusive, Bendor-Samuel points out.

Indeed, because it is a buyer's market, outsourcing customers in 2003 will have the power to increase service levels and still cut costs—a trend that favors the smaller, more agile service providers. "We can expect more companies to take advantage of outsourcing as the value proposition becomes more compelling," Bendor-Samuel says.

Current business strategy emphasizes cost savings

Companies are now more interested in decreasing costs than anything else, including increasing profits. Respondents' top three business priorities are to decrease costs, increase profit and increase customer loyalty (*see Chart 2*).

In Europe, fewer companies are interested in increasing revenue (39% vs. 59% in the US) and more concerned with supplier efficiency (25% vs. 8%).

Evaluating Outsourcing

■ Who makes the decision?

Among IT and business executives at the corporate and business unit level, corporate IT executives are the most likely to be involved at all levels in decisions to outsource, except for final authorization, where corporate business executives are the most likely to be involved.

Division IT executives are most influential in technical evaluation and specification. Division business managers played the least significant role in the process.

In 2003, with outsourcing being of greater strategic importance to companies—and with more outsourcing occurring outside of IT—look more for non-IT executives to become involved in the process. "Strategic department heads and senior executives will be more engaged in helping shape who the

CHART 2

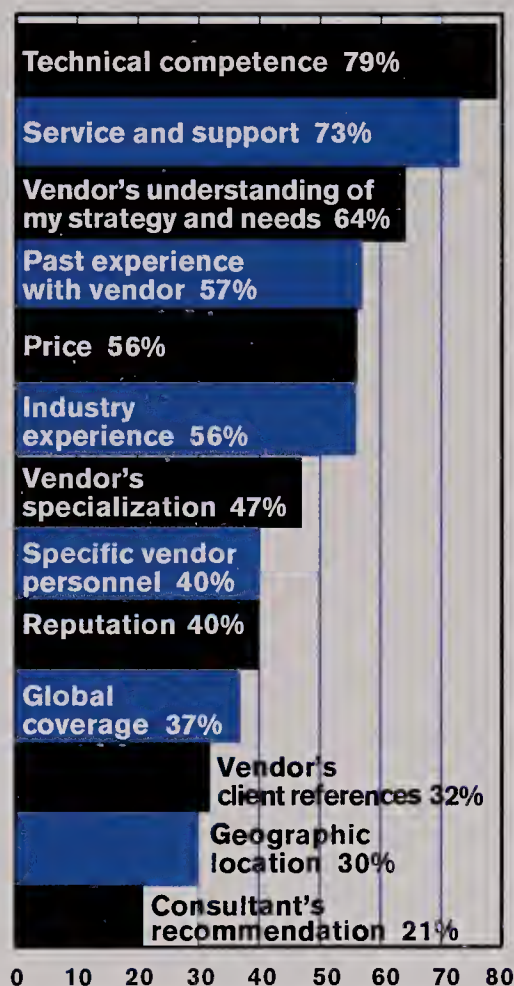
TOP BUSINESS PRIORITIES

What are your company's top 3 business priorities for the next 18 months (June 2002-December 2003)?



CHART 3**IT OUTSOURCING PROVIDER CRITERIA**

Please rate its importance to your company when selecting an IT outsourcing vendor (percent saying Critical/ Very Important).

**About Peter Bendor-Samuel**

Peter Bendor-Samuel is the president and founder of Everest Group, a company specializing in providing consulting and training in outsourcing management to companies worldwide. Peter is also the editor of Outsourcing Journal, an online magazine dedicated to the outsourcing industry. His book, "Turning Lead into Gold: The Demystification of Outsourcing," was published by Executive Excellence in 2000.

suppliers are," Bendor-Samuel says.

European companies are more likely than their US counterparts to involve their corporate business executives in all phases of IT outsourcing, from determining needs to final authorization.

How do you choose a provider?

To be successful, outsourcing providers must deliver on a broad range of criteria.

Seven factors are rated as critical or very important by at least 47% of respondents. These factors are: technical competence, service and support, vendor's understanding of a company's strategy, past experience with the vendor, price, industry experience, and vendor's specialization (see Chart 3). And these criteria are consistent throughout survey responses, regardless of company size, IT budget or industry.

Bendor-Samuel says these criteria and rankings line up with his own analysis of the outsourcing marketplace. "Customers now buy less on a per-hour basis, more on a per-solution basis," he says. As they increase outsourcing, he says, customers need to think more strategically than tactically, looking for vendors who can meet not just current, but future business needs. "Customers need to think more about what kind of [outsourcing] partner they want, and they need to form deeper relationships with their partners," Bendor-Samuel says.

Conclusions and recommendations

Clearly, as we enter 2003, outsourcing no longer needs to be sold as a viable business concept. As Bendor-Samuel says, "The model has proven out." But what customers now must embrace is their ability—their responsibility, really—to shape and maximize

their outsourcing relationships.

Steps toward that goal include:

- **Explore New Opportunities.**

Outsourcing isn't just for IT anymore; other business processes can be outsourced to great advantage. IT leaders can be their companies' outsourcing champions, pointing out new opportunities and sharing best practices;

- **Choose Partners Carefully.**

There are more choices than ever—of outsourcing services and service providers—so it behooves customers to think strategically about their prospective partners. Don't look just for a big name or a low price to satisfy today's needs; think about the quality of the relationship and the cultural fit between the provider and the client. Will the vendor and client respond reasonably to expected and potentially frequent changes in business and technology requirements? Is management on both sides willing to be flexible and responsive? Are processes defined to resolve problems? ■

For the complete report on the IT executives survey, go to www.getronics.com/download/pdf/CIO_survey_160902.pdf

About Getronics

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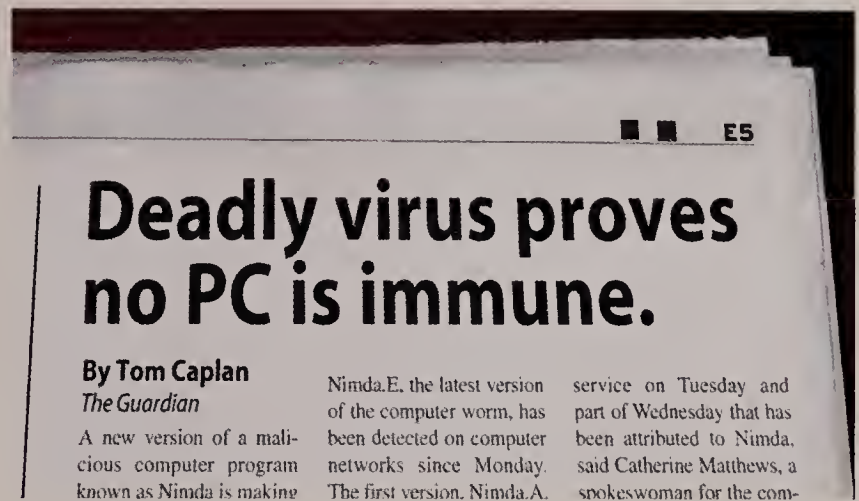
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IRONIC HOW MOST COVERED AGAINST



IT EXECUTIVES ARE UNLIKELY DISASTERS.

AND NOT THE MOST LIKELY ONES.



Deadly virus proves no PC is immune.

By Tom Caplan
The Guardian

A new version of a malicious computer program known as Nimda is making

Nimda.E, the latest version of the computer worm, has been detected on computer networks since Monday. The first version, Nimda.A,

service on Tuesday and part of Wednesday that has been attributed to Nimda, said Catherine Matthews, a spokeswoman for the com-

Some things aren't a question of if, but when. Like the proliferation of sneaky, new computer viruses. Unfortunately, studies show they will occur with increasing frequency and severity, wreaking havoc on corporate desktops and laptops. Often, even with virus protection. (And don't even get us started on the PC perils from hackers, theft, loss, crashes and user errors.)

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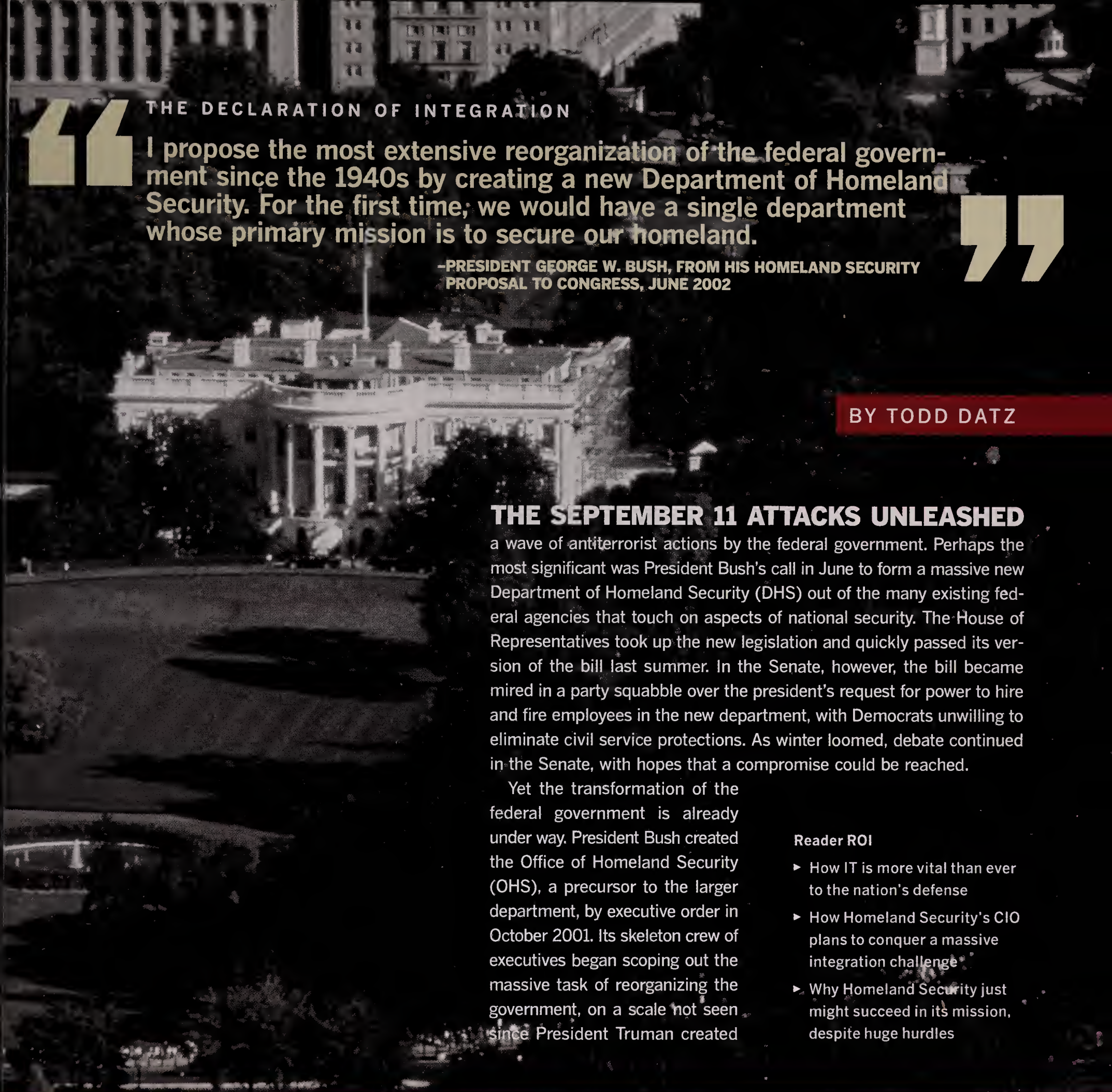


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INTEGRATING



THE DECLARATION OF INTEGRATION

I propose the most extensive reorganization of the federal government since the 1940s by creating a new Department of Homeland Security. For the first time, we would have a single department whose primary mission is to secure our homeland.

—PRESIDENT GEORGE W. BUSH, FROM HIS HOMELAND SECURITY PROPOSAL TO CONGRESS, JUNE 2002

BY TODD DATZ

THE SEPTEMBER 11 ATTACKS UNLEASHED

a wave of antiterrorist actions by the federal government. Perhaps the most significant was President Bush's call in June to form a massive new Department of Homeland Security (DHS) out of the many existing federal agencies that touch on aspects of national security. The House of Representatives took up the new legislation and quickly passed its version of the bill last summer. In the Senate, however, the bill became mired in a party squabble over the president's request for power to hire and fire employees in the new department, with Democrats unwilling to eliminate civil service protections. As winter loomed, debate continued in the Senate, with hopes that a compromise could be reached.

Yet the transformation of the federal government is already under way. President Bush created the Office of Homeland Security (OHS), a precursor to the larger department, by executive order in October 2001. Its skeleton crew of executives began scoping out the massive task of reorganizing the government, on a scale not seen since President Truman created

Reader ROI

- ▶ How IT is more vital than ever to the nation's defense
- ▶ How Homeland Security's CIO plans to conquer a massive integration challenge
- ▶ Why Homeland Security just might succeed in its mission, despite huge hurdles

AMERICA

The federal government's homeland security efforts promise to be the biggest change management challenge of all time

the Department of Defense following World War II. Uncertain when the new department will come into being or even which agencies it will encompass, the leaders of OHS nonetheless will play a key role in coordinating the efforts of different arms of the federal government, as well as state and local governments, the private sector and the American people, in the fight against terrorism.

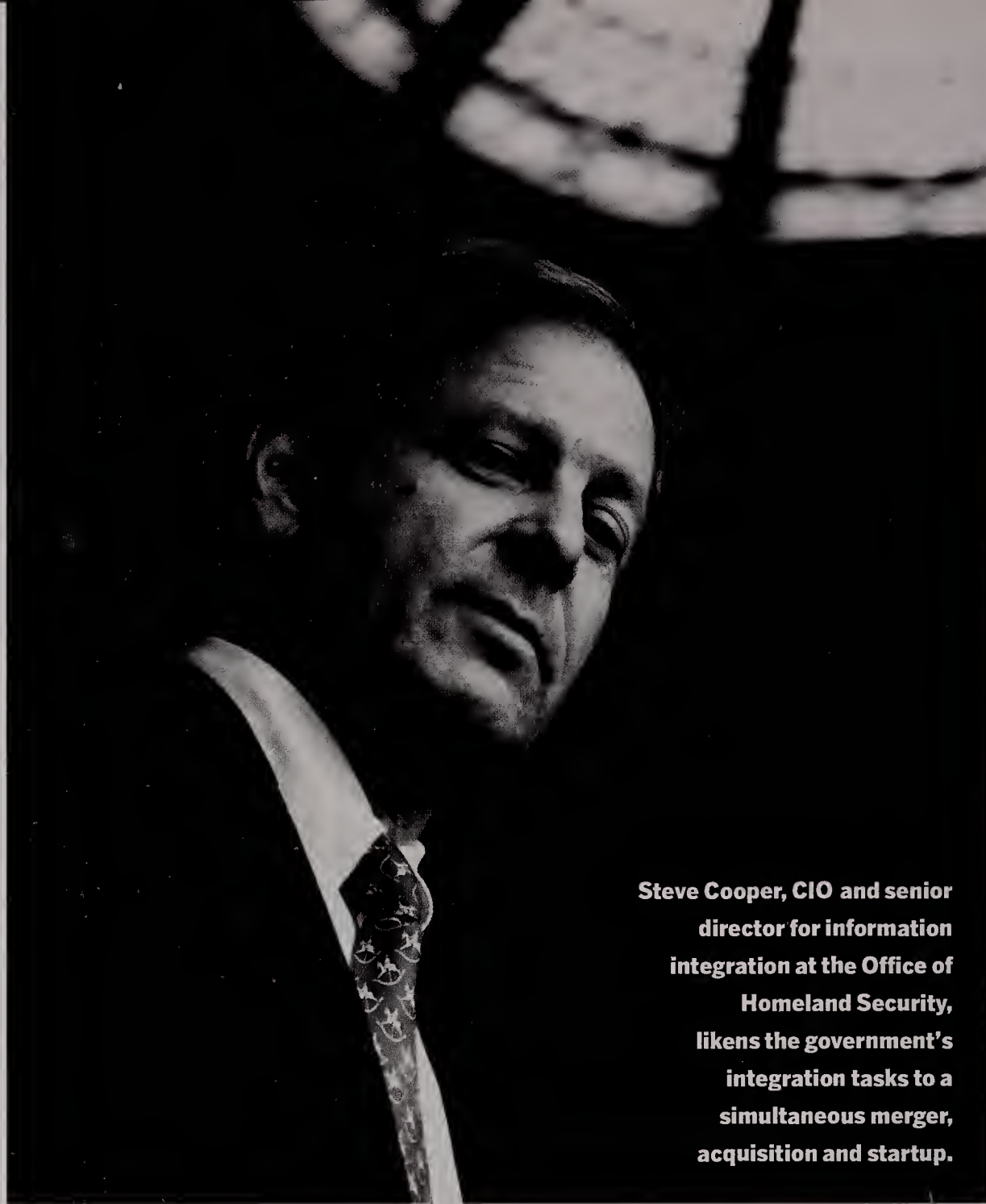
Making this mega-entity work, on the other hand, could be as difficult as trying to locate Osama bin Laden. Critics of the new department question whether bringing so many entities and people together into a huge, new bureaucracy is necessary. They wonder how willingly intelligence agencies such as the FBI and CIA, which remain outside DHS but are critical to its success, will share information. They worry that the reorganization will be too big an undertaking.

The success of the proposed department—and the security of the nation—will, in large part, hinge on IT. “Information technology is extremely important,” says Rep. Tom Davis (R-Va.). “It’s the thread that will weave the new department together.”

Steve Cooper, the CIO and senior director for information integration at OHS, faces the daunting task of integrating the hundreds of systems in the 22 agencies and programs that are currently slated to make up DHS. An even taller order, though, might be getting the 170,000 workers in those agencies to look past their different agendas, histories, cultures and processes and act as members of a holistic enterprise, whether they sit in the Coast Guard or the Customs Service or Nuclear Incident Response units.

Cooper, formerly the CIO at Corning, says the closest analogy to these Herculean

labors is mergers and acquisitions in the private sector, but that likeness only goes so far. “We’ve not found a true equivalent where you have a merger, acquisition and a startup all coming together at the same time,” he says. Yet Cooper is confident that the government can overcome this three-headed monster—because the stakes are too high for him to display any mood other than confidence. Self-assurance is one thing, however. To pull off this massive reorganization and integration may take years, which, in terrorist time, could be too late.



Steve Cooper, CIO and senior director for information integration at the Office of Homeland Security, likens the government's integration tasks to a simultaneous merger, acquisition and startup.

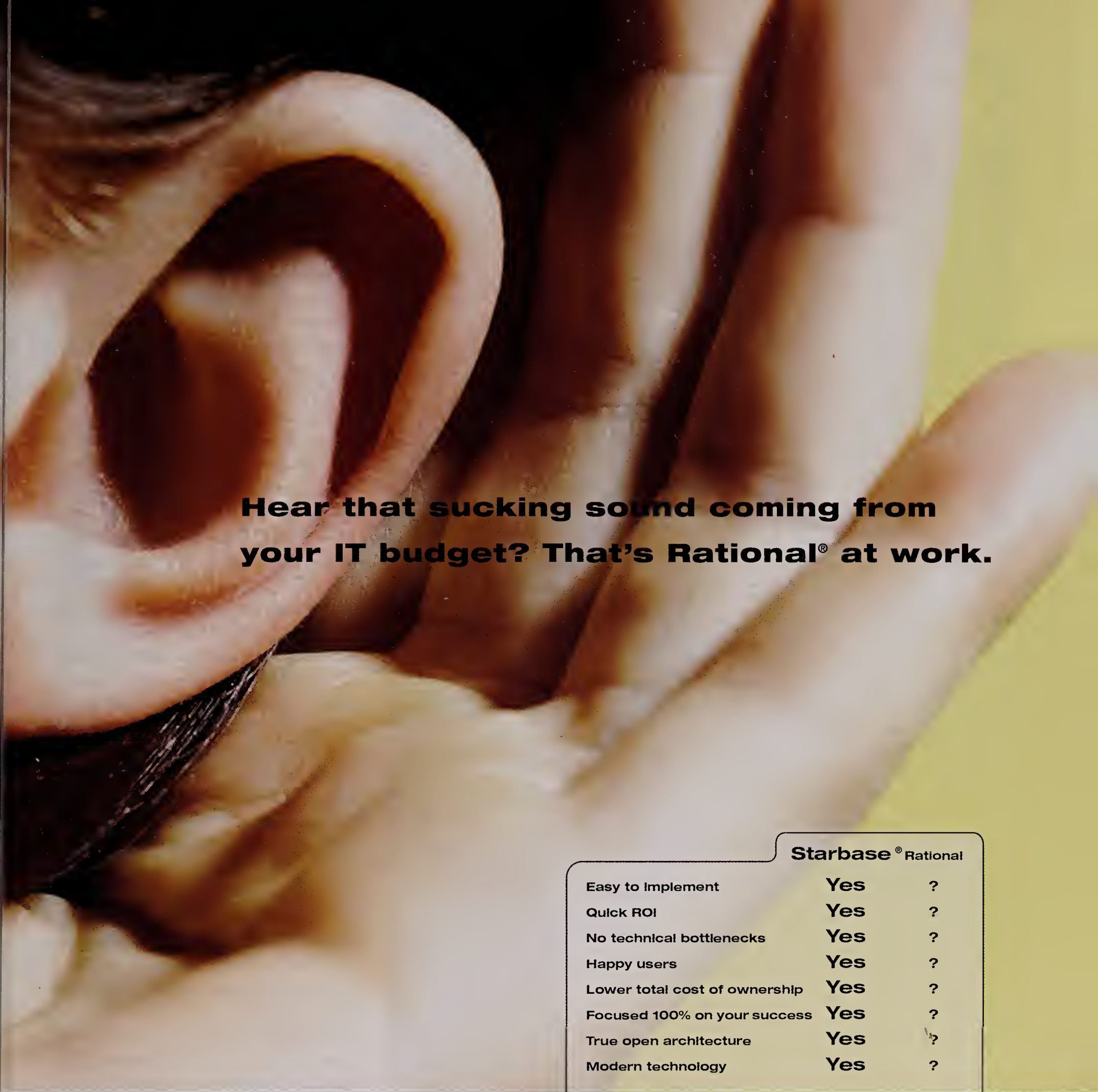
INTEGRATION OF A NATION

In July, President Bush released the National Strategy for Homeland Security, a product of eight months of consultations with a wide range of people, including governors, mayors, members of Congress, airline pilots, firefighters and business leaders. It defines the mission of the new department, lays out the goals and creates a plan of action. Underscoring the critical role that IT plays in the effort, two of the four foundations of the strategy are science and technology, and information shar-

The danger is that top managers will be preoccupied for months, if not years, with getting the reorganization right—thus giving insufficient attention to their real job: taking concrete action to counter the terrorist threat at home.

—FROM THE BROOKINGS INSTITUTION'S REPORT “ASSESSING THE DEPARTMENT OF HOMELAND SECURITY,” JULY 2002

PREVIOUS PAGE PHOTO BY CAMERON DAVIDSON/GETTY IMAGES; PHOTO THIS PAGE BY RON HOLTZ



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ing and systems (the others are law and international cooperation).

The White House's strategy guides the work Cooper and Jim Flyzik are doing. Cooper left Corning in March to join OHS as a special assistant to President Bush; Flyzik works in tandem with Cooper as a senior adviser to Assistant to the President for

Homeland Security Tom Ridge. Flyzik is on detail from the Department of the Treasury, where he is CIO. [Editor's note: Shortly after our article went to press, Flyzik announced his retirement, effective Dec. 17.] On a typical sun-splashed day in the nation's capital, in a bland conference area formed by grey cubicle walls, the pair—each wearing a suit,

Cooper adding a spark of sartorial flair with bright red suspenders—discuss their mission, goals and current state of IT planning.

Meeting the challenges of technological integration and employee collaboration means tackling four issues, they say: designing a new architecture for the entire enterprise, modernizing the many legacy systems, establishing a workable model for knowledge sharing, and bridging the cultural chasms among different agencies that existed long before 9/11. Here's how Cooper and Flyzik are going about it all.

► **The Architecture.** Cooper and Flyzik are focusing first on developing an enterprise architecture for homeland security. Getting the architecture right, Cooper says, "is absolutely core—a critical success factor—to enable us to make the right kinds of decisions and recommendations around IT investments for DHS and for the appropriate federal agencies."

The master architecture starts by identifying the business processes in the merging agencies; technology discussions come later. "We want to take a look at the functional areas that comprise homeland security: prevention, protection, detection, warning, incident management, response, recovery, public liaison communications—then activities like R&D and IT," says Cooper. "We then want to identify the processes that comprise those functional areas. We then want to identify the information that is most consumed by those processes and produced by those processes." Only after that extended exercise will they begin to look at IT enablement of the business processes.

Along with a concurrent effort at the Office of Management and Budget (OMB), this is the first time anyone has taken a holistic look at the federal government's business processes, notes Flyzik, who is also vice chair of the federal CIO Council. But streamlining processes promises to be a huge headache. Different agencies, even different departments within agencies, have developed different processes over the years. "A background check within one group in the Department of Commerce is different from another group

The Proposed Department of Homeland Security

Take the 22 agencies and programs listed below. Then integrate them. Easy? No way.

CHEMICAL, BIOLOGICAL, RADIOLOGICAL AND NUCLEAR COUNTERMEASURES

- Civilian Biodefense Research Programs (HHS)
- Lawrence Livermore National Laboratory (DoE)
- National Biowarfare Defense Analysis Center (new)
- Plum Island Animal Disease Center (USDA)

INFORMATION ANALYSIS AND INFRASTRUCTURE PROTECTION

- Critical Infrastructure Assurance Office (Commerce)
- Federal Computer Incident Response Center (GSA)
- National Communications System (DoD)
- National Infrastructure Protection Center (FBI)
- National Infrastructure Simulation and Analysis Center (DoE)

BORDER AND TRANSPORTATION SECURITY

- Immigration and Naturalization Service (DoJ)
- Customs Service (Treasury)
- Animal and Plant Health Inspection Service (USDA)
- Coast Guard (DoT)
- Federal Protective Services (GSA)
- Transportation Security Agency (DoT)

EMERGENCY PREPAREDNESS AND RESPONSE

- Federal Emergency Management Agency
- Chemical, Biological, Radiological and Nuclear Response Assets (HHS)
- Domestic Emergency Support Team*
- Nuclear Incident Response (DoE)
- Office of Domestic Preparedness (DoJ)**
- National Domestic Preparedness Office (FBI)

SECRET SERVICE (TREASURY)

* Interagency group currently mobilized by the Attorney General in response to major incidents.

** Included in FEMA in the president's FY2003 budget requests.

Note: This grouping is subject to change by the Senate.

SOURCE: THE WHITE HOUSE

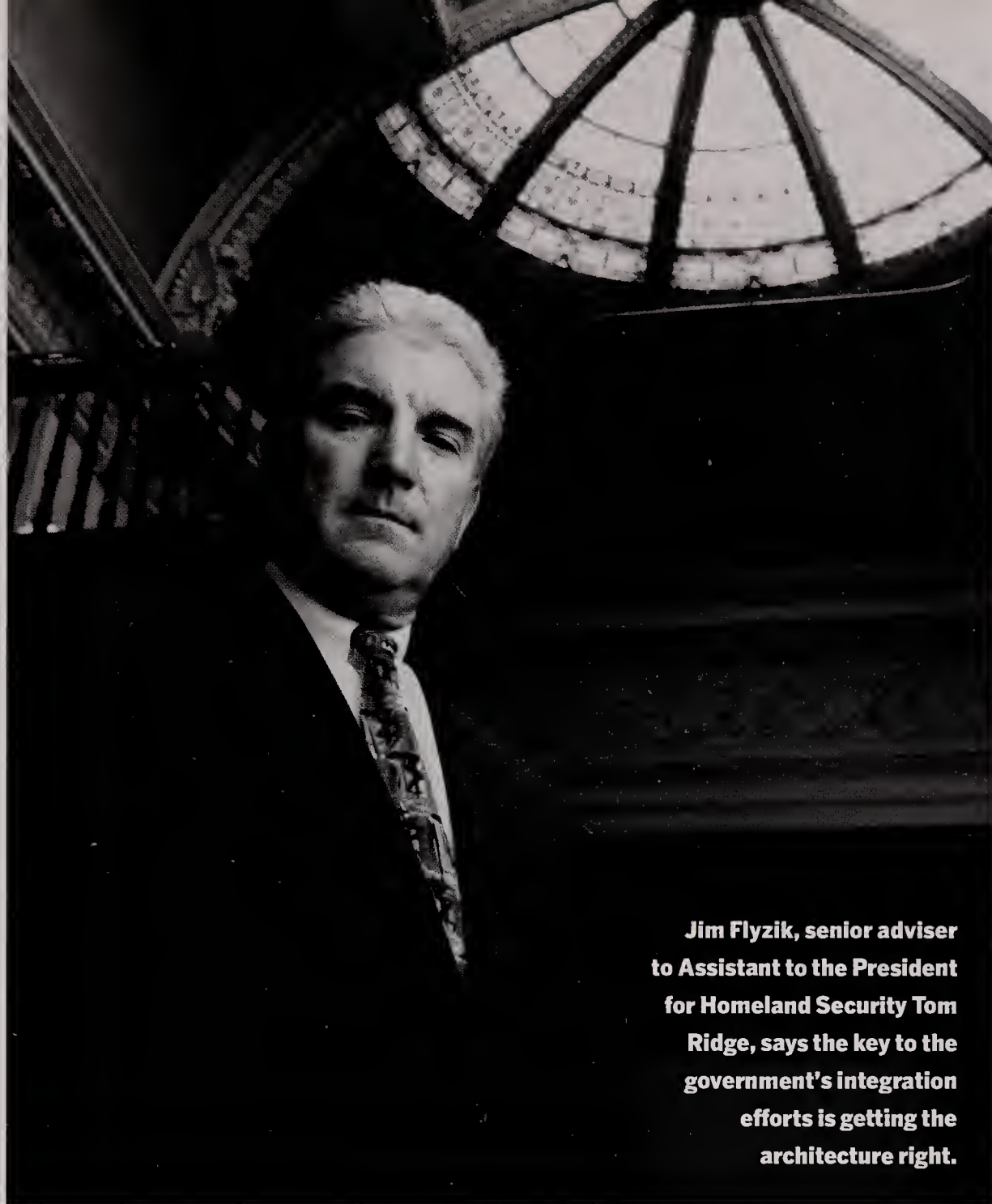
in Commerce, let alone across agencies,” says Avi Hoffer, chairman and vice president of strategic alliances at Metastorm, a Severna Park, Md.-based software vendor with several federal government clients. “There’s no consistency of business process.”

To begin honing in on functional processes in crucial areas, Flyzik and Cooper have established three working groups—border security, first responder and weapons of mass destruction—made up of federal CIOs. To take just one of those, the border security group, chaired by Flyzik, is mapping out all the processes involved from the time a foreign national applies for a visa outside the United States, travels to this country and then departs. “There are about 11 agencies involved in that end-to-end process,” says Cooper. He’s not yet ready to judge whether there’s too many cooks in the kitchen. But, he says, “We do know that...every time you make an organizational handoff, you introduce potential time delays, non-value-added work, additional cost and perhaps errors.”

If and when DHS gets the green light, the two leaders have identified some top priorities for the agency. One is consolidating the 58 criminal and terrorist “watch” lists; another is establishing a single portal for DHS.

Cooper thinks DHS can build out about 80 percent of the architecture in 18 months, and complete the IT implementation plan in three to five years. He stresses that the phased, incremental-type approach he’s taking will ensure that tangible value is delivered along the way. “I don’t want people to think that, Oh my God, they’re going to just hole up and hibernate and do all kinds of techy stuff before we have any value. Absolutely not,” he says.

►► **The Legacy Systems.** The architecture plan will serve as a map for Cooper and his team. But this is no greenfield exercise. To create a department capable of securing the nation, they’ll have to integrate hundreds of legacy systems. The first step is an assessment of the 22 agencies’ infrastructures, which itself is a hugely complex task. There are 22 personnel and seven payroll systems among the agencies, for example. You can bet that a



Jim Flyzik, senior adviser to Assistant to the President for Homeland Security Tom Ridge, says the key to the government’s integration efforts is getting the architecture right.

chunk of those will disappear in DHS.

Cooper and Flyzik are also building an inventory of the current enterprise licenses, with an eye on streamlining that number. The number of applications that deal with homeland security is around 500, according to Flyzik. Some may be dropped if they’re redundant; the rest will need to work together. And new ones will likely be added too.

In July, the feds showed they were serious about integration when the OMB created a supergroup of federal CIOs to pave the way for DHS’s effort. The IT Investment Review Group—made up of Cooper, Flyzik and the CIOs of the Coast Guard, Customs, Federal Emergency Management Agency, Immigration and Naturalization Service, Justice Department, State Department, and the Transportation Security Administration—was charged with reviewing government IT investments to identify redundant spending and decide which assets could form the basis

for integration efforts.

John Koskinen, city administrator for the District of Columbia and President Clinton’s Y2K czar, thinks that the Y2K exercise has put the government in a much better position to pull off integration. “Everyone has a much better inventory of the systems they’re running and why they’re running them,” he says.

But the reality of the integration challenge is this: There’s a ton of legacy stuff in those agencies, and connecting it could be messier than a Jack Welch divorce proceeding. “A lot [of systems] will be old, built out of technology that doesn’t exist commercially anymore,” says Raymond Wells, the former CTO and CFO of Alabama who is now director for strategic transformations in the application and integration middleware division for Armonk, N.Y.-based IBM. He cites the FBI, one of the agencies that will be sharing information with DHS, which has to send photos by overnight mail because its e-mail system

can't send them digitally.

Cooper and Flyzik plan to overcome the legacy hurdle with middleware, EAI tools and the Holy Grail of integration, Web services. Yet there's a lot of disagreement in the tech world over when Web services will be ready for prime time. Yes, the major software vendors are betting the integration farm on Web services, but the latest and greatest of the overhyped technologies still needs to grow up a little. Much work

remains to be done on security and the reliability of transactions, in particular.

BARRIERS AS BIG AS A CONTINENT

A more daunting challenge than actually connecting the agencies in DHS may well be how workers deal with the humongous amounts of data flowing into their systems. In addition to the information streaming into people's desktops

from within DHS, there's another huge spigot—the FBI, CIA and other intelligence agencies—that will be bursting the bandwidth with gig upon gig of data. Then there are the state governments, localities and private companies, which will be sharing information in areas such as law enforcement and intelligence with DHS and vice versa. “It may be the largest volume of information ever,” says Rock Regan, CIO of Connecticut and president of the National Association of State CIOs. Add the fact that much of the data will be dirty, redundant and useless, and you've got an analysis problem the likes of which has never been seen.

►► **The Knowledge Glut.** “The difference between data and information is the Achilles' heel” of DHS, says David Colton, vice president for strategic initiatives at the Arlington, Va.-based Information Technology Association of America (ITAA). “The really important thing will be to sift through the mounds of crap to figure out what's important.... If you get all the operating systems working together but don't turn data into information, you've still failed.”

“It's a fascinating intellectual challenge,” says Koskinen, who notes that intelligence agencies have long wrestled with this issue—for example, filtering data intercepts. “The infrastructure issues are challenging, but you can deal with that. Much harder is, What's my system for sorting and filtering and analyzing all that data? If [DHS] has reams of data and no one can figure out what it all means...you're talking about people's lives all over the world,” he says.

The fact that the intelligence agencies remain outside DHS makes information sharing that much more hazy. The FBI, CIA, National Security Agency and others will still be the main gatherers of intelligence information. The plan is that they will pass on intelligence to DHS. That's not a good model in Colton's eyes. “If [DHS is] receiving finished analytical reports, they're a passive customer. That doesn't work; it doesn't solve DHS's needs. When the intelligence community is reformed, DHS needs to become a much more dynamic part of it.

Wanted: An All-Everything CIO

What skills will the new CIO at the Department of Homeland Security need to bring to the job?

“He or she has to report to the office of the Secretary [of Homeland Security]. If he's three levels away, it won't work.... The person will need to be a good architectural thinker. It's not building systems; it's merging systems.”

—JOHN KOSKINEN, CITY ADMINISTRATOR FOR THE DISTRICT OF COLUMBIA AND PRESIDENT CLINTON'S Y2K CZAR

“Someone who will kick some ass with golf shoes. A nice guy will fail.”

—DAVID COLTON, VICE PRESIDENT FOR STRATEGIC INITIATIVES, INFORMATION TECHNOLOGY ASSOCIATION OF AMERICA

“There are [parts] of this job that are broader than, say, being CIO of Commerce. The person can't object to having bodyguards—there's a security clearance aspect. This is like the Henry Kissinger of CIOs.”

—LARAINÉ RODGERS, PRESIDENT AND EXECUTIVE DIRECTOR, ARIZONA PARTNERSHIP FOR HIGHER EDUCATION AND BUSINESS

“The person doesn't need to be a technologist, though he shouldn't be stupid about technology. He needs to have a broad vision of what homeland security is about—that's the most important attribute he can bring to the job.”

—RAYMOND WELLS, DIRECTOR FOR STRATEGIC TRANSFORMATIONS IN THE APPLICATION AND INTEGRATION MIDDLEWARE DIVISION AT IBM AND FORMER CTO AND CFO OF ALABAMA

“Even within the department [the CIO] will require some pretty impressive negotiation skills on the order of the negotiations between the superpowers.”

—RON MILLER, DIRECTOR OF I.T., FEDERAL EMERGENCY MANAGEMENT AGENCY

“The person needs to be a master communicator...somebody that can communicate the vision of what the department is trying to accomplish.”

—ROCK REGAN, CIO OF CONNECTICUT AND PRESIDENT OF NASCIO

I think it's long overdue that somebody take a look at the government from a functional view instead of an agency-by-agency view. And that's what's being done here.

—JIM FLYZIK, SENIOR ADVISER TO THE ASSISTANT TO THE PRESIDENT FOR HOMELAND SECURITY

Absent that change, I'm not sure the department will fully succeed," he says.

Cooper and Flyzik believe the concept of "capture once, reuse many" (capturing data only one time to eliminate redundancy) will help them confront the specter of too much information. As part of their architecture work, they're identifying and labeling "databases of record," which will then be designated as official sources of data. Other databases would be cast aside; new ones could be created. "We recognize it's probably going to take a few years to get where we want to be fully," says Cooper.

In many ways, this is the mother of all knowledge management projects. And there isn't exactly a font of KM successes in the private sector to use as a model. It's hard to find people with broad experience in labeling, organizing and retrieving information, notes Woody Hall, CIO of the Customs Service. He also cautions that DHS will need to be careful in its mission to provide information to people anywhere at any time, so that the end result isn't a push kind of architecture, in which people would be inundated with data and information. "The challenge is to sift and screen it," he says.

Flyzik is adamant that DHS workers won't suffer from information overload. "If you get the architecture right, the net result is you will get the right information to the right people all of the time," he says.

►► **The Culture Clash.** Putting anything together—companies (think AOL Time Warner), people (think Liz Taylor and anybody)—can be difficult. Cobbling together 22 entities would send even the most experienced change management gurus rushing for the beta blockers. It's making these disparate cultures work together, particularly when it

comes to information sharing, that may well be the hardest piece of the homeland security puzzle. "You're bringing in 22 different families with 22 family histories," says ITAA's Colton. "Whoever takes the secretary job has a huge managerial challenge to get the disparate corporate cultures to integrate. It may take four to five years to do."

The federal government is a vast collection of agencies and departments whose employees have never had much reason or incentive to think of themselves as part of a larger enterprise. Their interactions in many cases are minimal. And many of the agencies have long histories. Customs, for example, dates back to 1789. "We have our own flag, our own uniform. Same thing with the Coast Guard," Hall says. He raises the issue of whether those entities would keep their own uniforms or adopt new, standard uniforms.

Uniforms may sound like a minor issue, but when it comes to mergers, what's trivial to one person can be a deal-breaker to another. Multiply that type of decision a thousand or ten thousand times and you get a clearer picture of the mammoth task that lies ahead. IBM's Wells says flatly, "Overcoming all the barriers created by an accumulation of a thousand years of organizational existence will be the toughest challenge."

WHAT LIES IN THE BALANCE

With so many technological and change management hurdles to overcome, it would not be surprising if DHS achieved only partial success in its mission or even failed outright. Yet there are two reasons why DHS might surprise the skeptics. The first is that reorganization of the federal government is a good idea. "I would suggest the world has

changed considerably since the 1940s, especially in the use of IT products," Flyzik says. "I think it's long overdue that somebody take a look at the government from a functional view instead of an agency-by-agency view. And that's what's being done here." His voice picks up as he asks, rhetorically, How many agencies at the federal, state and local level are involved with border crossings? More than 40, he announces, which means that if you're an importer or exporter, you might be required to fill out papers for more than 40 different entities. "I think what the president and governor [Ridge] are doing here is absolutely right on, and in the end, we'll not only have a more secure country, we'll have a more efficient government."

The second, and more important, reason that this department can succeed is its mission: to save lives and protect property. That will be incentive enough for many people to discard their agency hats for new, larger-size homeland security headgear. Sept. 11 singed a permanent memory in America's psyche, and that includes the DHS workers who patrol the border, respond to disasters and analyze intelligence day in and day out. Their commitment to defend the nation will, at a minimum, give the new department a fighting chance. **CIO**

Can the IT efforts of the Department of Homeland Security succeed? Write Senior Editor Todd Datz at tdatz@cio.com.

CIO.com Give the DHS CIOs a piece of your mind when you **WEIGH IN** with your own integration strategies. What's worked for you? Share your best practices at comment.cio.com/weighin.



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The ROI for wireless was once assumed to be a given. Today, many consider it anything but. But if you follow these emerging best practices, your project can achieve many happy returns.

BY BEN WORTHEN

At the turn of the century, way back in 2000, there were few or no best practices governing wireless investments, and there really didn't have to be. Just saying a project was wireless evoked a limitless landscape strewn with potential profits. Pronounce the magic word, *wireless*, and CEOs sat up and listened. CFOs unsnapped their pocketbooks.

In March 2001, CIO published a survey of 170 IT executives; 84 percent said they either already had or planned to deploy a wireless project.

But, of course, that was then. A new CIO survey completed last May shows that a good many of those projects either failed to materialize or failed to work. Today, companies support wireless devices and offer wireless applications at rates far below what they anticipated they would a year and a half earlier. (See our complete survey, "2002 Wireless Update," at www2.cio.com/research.) PDA and pager adoption were both off by 20 percent, and the number of wireless application installations fell anywhere from 8 percent to 20 percent short of expectations.

There are a number of reasons why wireless projects withered on the vine, most notably an economy that no longer encourages speculative investment. CIOs have also been burned by the shortcomings of wireless technology

Reader ROI

- ▶ Which business cases demand wireless strategies and which don't
- ▶ Low-budget options for wireless implementations
- ▶ How batched data processing can sync with real-time data exchange

(see "3 Reasons Why Wireless Projects Fail," Page 60) and by projects targeted at audiences that weren't really there. Jeff Scott, chief technology officer of New York City-based Thomson Financial, which in the last quarter of 2000 deployed a wireless application that delivered financial data to handheld devices, sums up the feelings of many of his colleagues when he says that "the financial services industry has cooled a bit for these services, either because of the market conditions or a changed view of ROI for wireless or both." Barry Strasnick, CIO of Quincy, Mass.-based CitiStreet, is more blunt. Describing an abandoned wireless effort to extend website capabilities to handheld devices, he says, "Realistically, you shouldn't trade your 401(k) as you're walk-

ing through the airport."

Wireless technology has improved during the past few years but still has a ways to go before it catches up to the original hype, says Victor Milligan, vice president of consulting for Stamford, Conn.-based Gartner. "The only way to make sense of it is to build a business case," says Milligan. "If you have a mobile workforce that is part of a mission-critical or valuable business process, you need to have a wireless strategy. That strategy may be to defer, but at least you're making the decision based on information."

Building a business case is not as simple as it may first appear. Many CIOs still have a hard time determining a hard ROI for wireless projects. In CIO's latest survey, the two most popular measures of ROI were

increased productivity (54 percent) and improved internal customer satisfaction (40 percent), neither of which is easily measured. Furthermore, an astounding 25 percent of CIOs surveyed said that they didn't measure the ROI of wireless projects at all.

That's not good.

Although the executives interviewed for this article say they will no longer pay for projects that won't pay them back, few are able to define that payback in anything more than general terms. Still, best practices for planning, launching and implementing wireless projects can be derived by examining projects that work and those that don't. And what works are projects that start with a clearly stated problem and proceed by deploying the most direct solution—lever-



Air Canada CIO Alice Keung is a skeptic when it comes to wireless technology, but she concluded that in order for the airline to get its planes serviced more efficiently, "we needed it whether we liked it or not."

aging the right technology. CIOs who have led those successful implementations are able to track how they increase revenue and how they reduce costs.

“Who’s Got the Doohickey That Fits into the Thingamabob?”

AIR CANADA is Canada’s largest airline. Its 234 planes make an average of 1,600 flights per day, 40 percent of which travel through the airline’s Toronto hub. The weakened economy and the aftershocks of the 9/11 hijackings have ravaged the North American airline industry, and Air Canada

is no exception. From an operational perspective, says Vice President of IT and CIO Alice Keung, the downturn has forced the airline to look for ways to improve airplane utilization, which means keeping

planes in the air and off the ground. “With a shorter turnaround time [between flights] you can use the aircraft more frequently,” she says. “This leads both to more profitability and improved customer service.”

The number-one culprit for ground delays is line maintenance—unscheduled repairs to a plane’s equipment, instruments or body. (That is different than heavy maintenance, in which planes can be stripped down to the wires. Heavy maintenance is conducted at scheduled intervals in either Calgary, Montreal, Vancouver or Winnipeg.)

Here’s how line maintenance works: A pilot or mechanic sends an alert to Toronto—by teletype, fax or simply with a note in the plane’s log—saying that a plane needs repairs. When the plane lands in Toronto, mechanics meet it. Or they don’t.

Please Don’t Squeeze the Project

Not every wireless project yields a hard ROI. Not every project has to.

The vast majority of CIOs interviewed for this article hadn’t calculated a hard ROI for their wireless initiatives and, in fact, there are cases where project benefits don’t lend themselves to objective measurement.

For his latest project, Jim Olson, CIO of Waterbury Hospital Health Center in Waterbury, Conn., has outfitted rooms with wireless devices that allow nurses to monitor patients from nursing stations, rather than making rounds. The data is also captured in a central repository. The wireless standards and dedicated spectrum necessary to support this technology are new (and one of the reasons you can’t use a cell phone inside a hospital). Olson can’t assign a number to the nurses’ productivity—they’re doing the same amount of work; it’s just easier—but, he says, “It’s a quality-of-care issue. You can be quicker to react. It comes down to helping your critically ill patients.”

Wireless aficionados often claim that as the investment in wireless is typically small and the increased efficiency big, a hard ROI isn’t really necessary. A wireless production monitoring and warehouse inventory system deployed by the Lancaster, Pa.-based plastics packaging manufacturer Kerr Group was deemed such a project by Vice President of IS Megan Petry. She rigged up a system where wireless scanners (at \$3,600 a pop) keep track of what’s produced, what’s moved and what leaves each warehouse. The system, costing approximately \$100,000, has allowed Kerr to cut staff and has provided better insight into operations. Asked for the hard ROI, Petry says only that the staff reductions it allowed easily paid for the capital expense.

But for every low-budget success story there’s a failure. Tom McLain, vice president of IT and e-business for Old Mutual Asset Managers in the United States, thought that if field agents had real-time information they would be able to respond to service requests more quickly, which in turn would lead to more business for the Boston-based financial services company. McLain spent \$50,000 (out of a \$2 million to \$3 million IT budget) to make the company intranet accessible to PDAs. McLain admits that the information—sales leads and a company directory—is not mission-critical, but he thought that if it led to just one new sale per user the system would pay for itself.

It hasn’t. The application works, but there isn’t enough bandwidth. “It takes too long and people don’t have the patience,” says McLain. And since the projected benefit derives from real-time information delivered in the field, it doesn’t do users any good to dial up from home at the start or end of a day. “From a pure ROI, we probably can’t justify this,” McLain concedes.

In order to make the system work with current technology, McLain would have to invest a lot more money, and at this point he has no plans to do so. —B.W.

Sometimes the mechanics don’t get the message, or they don’t get it until after the plane has left. All too frequently, a mechanic arrives at the gate only to realize that he has to return to the hangar for a part. So Keung figured that if mechanics had real-time access to the maintenance system, they

would be better prepared to service the plane when it arrived. That would mean faster turnaround.

Keung is a wireless skeptic, but after conversations with other Toronto-area wireless users—including the local police force and the Toronto Bluejays baseball team—she

AIR CANADA
ANNUAL REVENUE:
\$6 BILLION

Project:
**Wireless toolkit
for mechanics**

Cost of project:
\$254,000

ROI: **To be
determined**

concluded that “we needed it whether we liked it or not.” So last April Air Canada invested \$254,000 in a pilot project to see whether wireless could in fact improve maintenance efficiency.

Air Canada mechanics needed to access information, including maintenance manuals, diagrams and as many as 10 different data systems, and Keung realized early on that devices connected through a wireless carrier’s data network wouldn’t have the necessary bandwidth. Furthermore, overhauling back-end systems to make them accessible would be prohibitively expensive. Instead, Keung deployed a wireless LAN-based solution, investing in complex encryption and authentication technologies that would keep it secure.

What devices to use was another unknown. “We tried a few,” says Keung. “We started with a handheld device, but the

mechanics didn’t like it. They have to wear huge gloves in the winter”—this is Air Canada after all—“and the number of data sources and diagrams made handhelds way too small.” Eventually, with help from IBM, Keung developed a tablet-like device that could be mounted on a mechanic’s truck.

During the five-month pilot, Air Canada found that productivity improved. Mechanics didn’t have to travel back and forth to the hangar as much, and it was easier to plan for repairs. If a plane heading for Vancouver needed a widget, management could

make sure the widget would be there, waiting. “That all has a bottom-line impact,” Keung says. She believes that the pilot made a (modest) contribution to Air Canada’s 2002 \$134 million second-quarter operating income increase over 2001’s second quarter.

It was, in fact, the only North American-based international carrier to post a quarterly profit.

The next step, says Keung, will be to roll out the devices gradually to Air Canada terminals in other cities.

TWENTY-FIVE PERCENT OF THE I.T. EXECUTIVES SURVEYED BY CIO SAID THEY DIDN’T MEASURE THE ROI OF WIRELESS PROJECTS AT ALL.

5 Quick Tips for Making Wireless Work for You

MAKE SURE YOU FIT THE PROFILE

To date, only companies with a large or mission-critical mobile workforce, or remote manufacturing concerns, have derived a consistent ROI from wireless apps. Niche markets, such as universities and hospitals, have also had success.

ASK YOURSELF, DO I REALLY NEED IT?

Simply having a mobile workforce doesn’t guarantee an ROI. Real-time information access has to dramatically help your business.

KNOW WHAT YOU WANT TO ACHIEVE

CIOs who are clear about the metrics they are trying to improve are in a position to quantify a project’s success.

TALK TO YOUR USERS

Equipping workers with wireless devices and providing access to information isn’t enough. The devices and the data exchange must be tested and tailored to fit their needs.

REMEMBER: LESS MAY BE MORE

Successful wireless projects don’t necessarily need every bell and each whistle. For example, don’t spend a ton to integrate always-connected devices with real-time data exchange when daily syncs will do.

—B.W.

“Did You Say Champagne or Champale?”

SOUTHERN WINE & SPIRITS is America’s largest adult beverage distributor, controlling about 13 percent of the market. The Miami-based company has 40,000 customers, including restaurants, bars, hotels and liquor stores, and stocks 25,000 different products in California alone. “There’s not enough paper in the world for a sales force to track all the items and vintages,” says Vice President of Sales and Marketing Steven Burrows. Yet, before the wireless system, that’s what they had to do. Reps would keep stacks of books in the trunk of their car so that they could have descriptions of the various brands and vintages handy.

SOUTHERN WINE & SPIRITS
ANNUAL REVENUE:
\$4 BILLION

Project:
Sales-force automation

Cost of project:
\$3.5 million

ROI: **\$10 million**

Continued on Page 60

P E A K P E R F O R M A N C E —

Reinventing *the* Integrated Customer-Driven E N T E R P R I S E

THERE IS NO ALTERNATIVE.

Today's organizations realize that becoming a customer-driven enterprise, making it easier for customers to do business with the organization, is non-negotiable; it's a must to achieve sustainable competitive advantage. The goal—to consistently deliver an exceptional customer experience—requires that companies apply best practices in every aspect of managing customer relationships.

Embedding best practices for customers into industry-specific business

processes is essential to success, and yet just to identify and document these best practices is one challenge. Integrating them—delivering these best practice-based business processes across the enterprise—is another.

CIOs clearly recognize the enormous economic potential of creating a company where customer information flows freely throughout the entire enterprise, and where streamlined business processes are optimized to serve customer needs, not fragmented by organizational silos. Ideally, the fully-integrated business delivers a superior customer experience while improving profits and lowering costs.



ILLUSTRATION BY DAVID CUTLER

But CIOs also see the messy reality: Their customer-driven business processes—from lead generation to order fulfillment—depend on the integration of vast amounts of data, much of which reside in legacy and custom applications. This data, sequestered from other disconnected systems such as CRM, ERP and SCM, renders many integration solutions inadequate. Vendors promising a “complete suite” of integrated pre-packaged applications cannot possibly solve this complex issue, as these integration models fail to capture the full range of data across legacy and custom applications that is required to execute customer-driven processes.

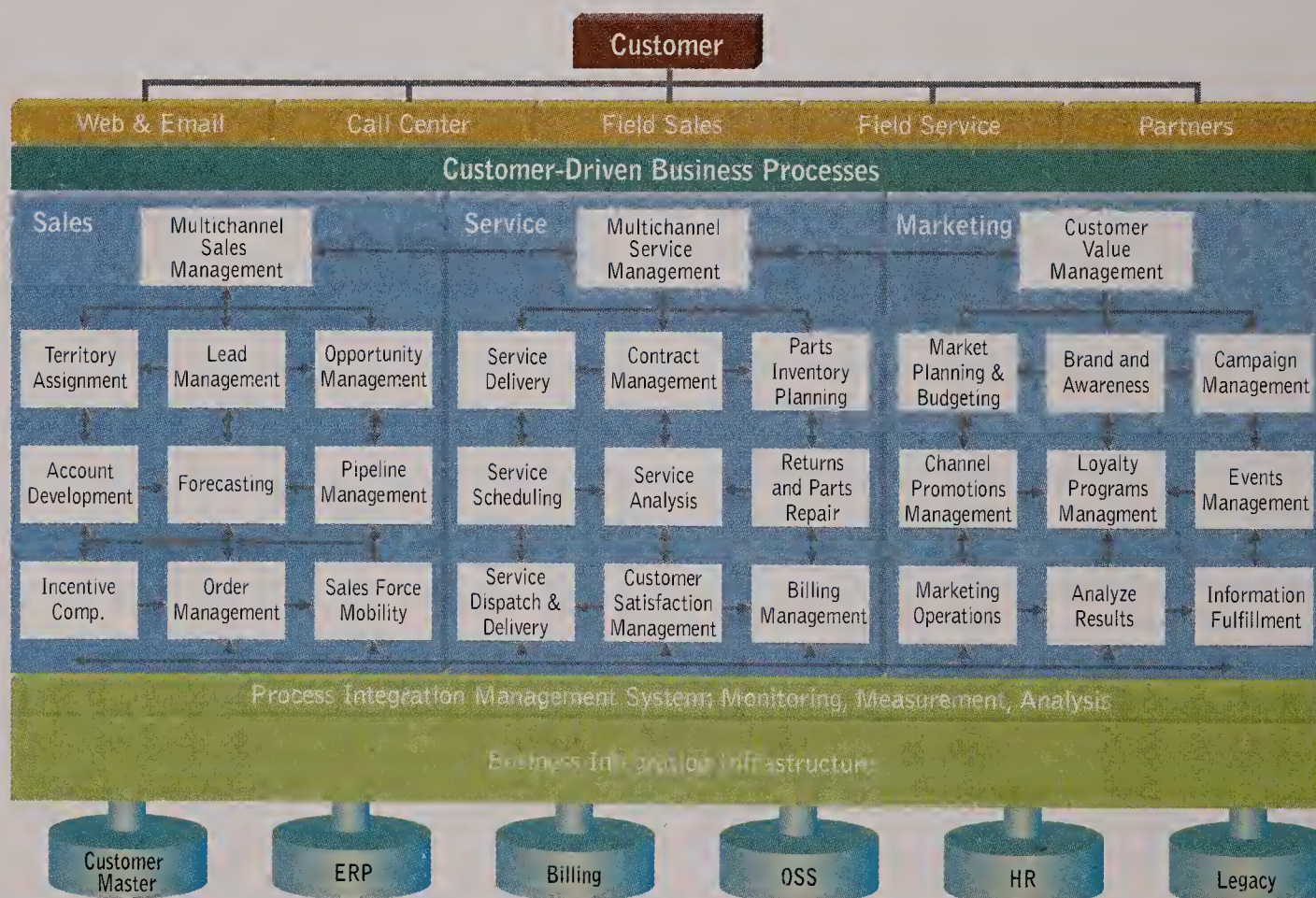
Truly effective integration solutions must take full advantage of emerging open XML and web services standards such as BPEL4WS, XSLT and XSD. These open standards-based integration models are capable of leveraging existing IT investments while enabling the use of best-in-class applications required to achieve optimal, end-to-end busi-

ness processes. About web services alone, Gartner’s Michael Blechar writes in the Aug. 26, 2002, report “*The Impact of Web Services Architecture on AD*” that by 2005 this will be the predominant programming model, used for at least two-thirds, and perhaps as much as 80 percent, of new applications.

“Integration is not merely hooking up your ERP system to a CRM package—that trivializes the problem greatly,” says Mark Sunday, SVP/IT and CIO at Siebel Systems. Only one part of customer-driven process integration is involved with connecting enterprise applications so that information can flow in real time throughout the enterprise. Another challenge is how to choreograph the complex transactions that occur between applications so that they truly reflect the business process being created. It is a Herculean task to orchestrate them all in support of streamlined and effective business processes that keep customers at the center.

In short, while customer-driven business

IBM and Siebel Systems Provide Business Processes for the Multichannel, Customer-Driven eBusiness



process integration might be an IT executive's greatest dream—it can also be the biggest challenge.

"If your organization as a whole is not focusing on customers and how to support them, you're putting yourself at a competitive disadvantage," says Vince Ostrosky, VP/Customer Relationship Management at IBM. "A commitment to customer focus does not stop with selecting the best-in-class CRM system," he adds. "It extends to fundamentally improving all the business activities that directly and indirectly support customer transactions. Failing to realize this will prevent a CRM project from reaching desired results."

With so much at stake, it's no surprise that IT executives are choking back their fears and making a top priority out of integrating systems to build a customer-driven company. "People want integration to be faster, cheaper and easier," says Paraic Sweeney, VP/Marketing at IBM's WebSphere® Business Integration. "They want to be able to manage the risk associated with change by making integration simpler."

ROADBLOCKS TO INTEGRATION

Prioritizing customer-driven integration is a great start. But many experts cite significant barriers to fully integrating business processes.

"The problem is that delivering a higher level of customer experience requires integrating many systems, which is cost prohibitive, and projects are often shelved," says Edward Abbo, SVP/CTO at Siebel Systems. Integration alone is not the answer. Integrating processes to be customer-centric involves transforming how companies do business in ways that deliver the most value and competitive advantage.

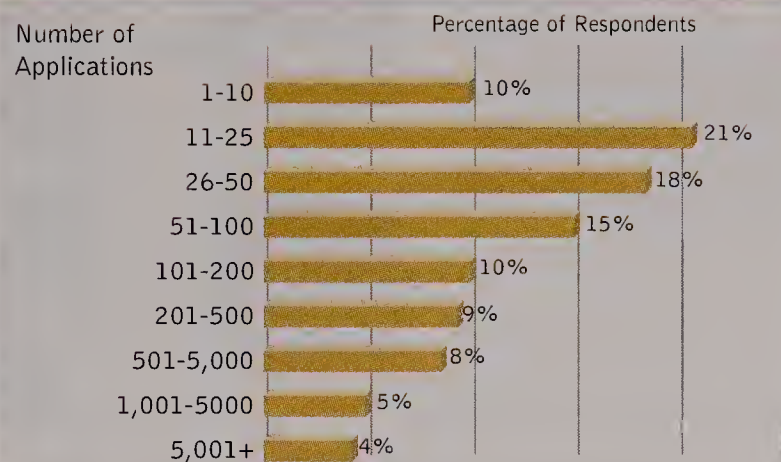
Corporations also must ensure that the right business processes get integrated. "Process integration requires an end-to-end analysis of current business processes and data flows," says Steve Bonadio of Meta Group. "CRM integration differs in some respects insofar as ultimately the customer has to be the primary focal point for what is being integrated—not the organization."

"The payoff is worth the effort, but integrating a company's business processes need not be so complex," says Ambuj Goyal, general manager of IBM's Solutions Division. "While it requires CIOs to tackle difficult questions of budget, project scope and technical complexity, integration can be made easier with a pre-built software solution in which integration best practices are embedded in every component."

Most experts say that the average large

Assessing the Integration Challenge

How Many Applications Do You Have in Your IT Environment?



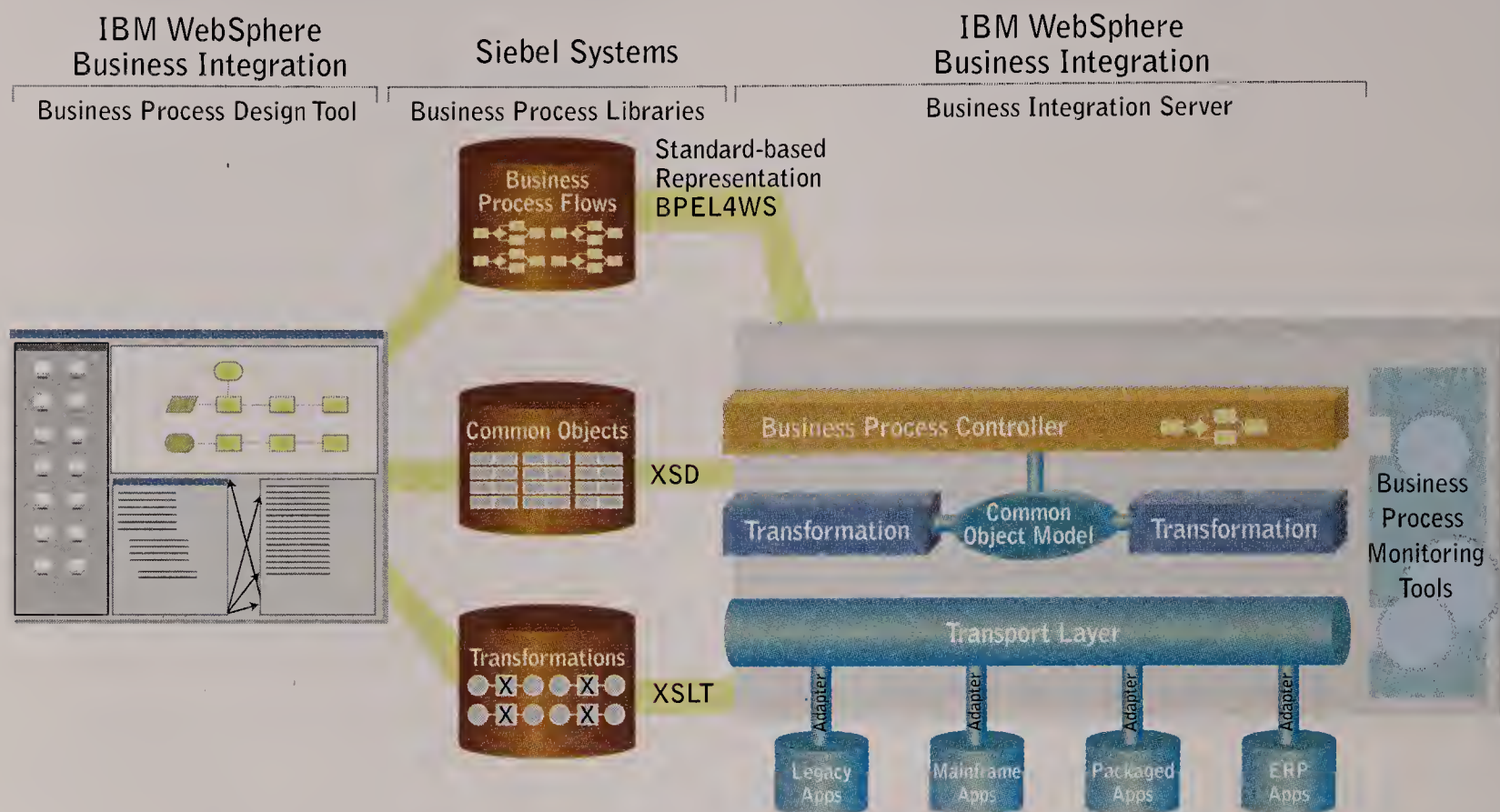
Source: Satmetrix Survey

corporation has anywhere from 50 to 100 separate applications—some large global corporations report as many as 5,000 [see chart above]—including a wide range of systems from legacy to order entry, HR and sales systems. The sheer number of applications makes integration complicated.

"It's not just linking numerous applications that is complex, but also selecting which to include, which systems to retire, and which to replace altogether with a packaged application," says IBM's Ostrosky. "CIOs must then figure out how to make them all work together to support business activity. By maintaining focus on the process and how it affects customers, the answers become clearer."

All that technical complexity also adds up to a fairly large line item in the IT budget. According to "The State of Integration in Today's Business World," a recent report from

Who Provides What in the IBM and Siebel Systems Joint Solution in Support of Universal Application Network



The Hurwitz Group, budgets devoted to integration spending can be nearly 30 percent of an overall IT budget. Gartner analysts G.Long and R. Schulte agree, noting in their June 2002 report, *"Building the Business Case for Application Integration,"* that integration projects typically consume about 35 percent of the cost and effort in an application implementation. Says Janelle Hill of Meta Group, "Most enterprisewide integration initiatives are multimillion dollar projects, depending on the size of the company and the scope of the project."

But just because integration projects can be cumbersome and costly doesn't mean they have to be.

OVERCOMING THE BARRIERS TO CUSTOMER-DRIVEN PROCESS INTEGRATION

Every company, every industry, is unique in how it relates to its customers, so it stands to reason that a customer-driven integration project will vary according to a company's

individual processes and goals. Such unique requirements argue for the use of some custom integration work. However, at the same time, CIOs face constant pressure to deliver these initiatives on time and under budget, so an expensive and time-consuming custom project is out of the question.

But now there is a new alternative: the IBM/Siebel joint integration solution, which marries Siebel Systems' pre-built library of customer-driven business processes to IBM's WebSphere Business Integration software, using an open standards approach.

The joint solution is designed to support Universal Application Network (UAN) Systems, introduced by Siebel Systems in March 2002. It exemplifies the importance of pre-packaged standards-based integration in implementing best practice-based business processes, while leveraging IBM's standards-based approach to business integration software. Together, they allow CIOs to implement a scalable platform that embraces new integration

"An integration infrastructure that supports superior customer experience ... has to be flexible, scalable and deliver measurable results. IBM and Siebel put these requirements first."

—AMBUJ GOYAL, GM OF SOLUTIONS DIVISION, IBM

initiatives such as web services, while lowering the costs and risks associated with integration.

Together, IBM and Siebel Systems have decades of industry expertise in building customer-driven business processes and in solving integration problems. And now the two companies have significantly extended their Global Strategic Alliance to offer customers an industry-leading solution that embodies this expertise.

[For more information see www.IBM-Siebel.com/us/bp]

"Our customers have clearly communicated the need for world-class best practices for sales, marketing, and service," says Thomas M. Siebel, Chairman and Chief Executive Officer, Siebel Systems. "That's why we have partnered with IBM to deliver on the promise of pre-built, end-to-end, customer-driven business process-

es that global enterprises are demanding."

Companies care greatly that their technology investments have solid backing by vendors with a strong track record in delivering results. "And this is especially true in the case of building an integration infrastructure that supports superior customer experience," says IBM's Goyal. "It has to be flexible, scalable and deliver measurable results. IBM and Siebel put these requirements first."

By leveraging IBM's pre-built business process templates and common object model, Siebel Systems is able to accelerate delivery of its rich library of pre-built, industry-specific business processes. Because their software will work together seamlessly, IBM and Siebel Systems are responding to what customers need: a simple way to integrate business processes from their customer's point of view.

About the IBM and Siebel Systems Joint Integration Solution in Support of Universal Application Network

THE INTEGRATION SOLUTION brought by IBM and Siebel Systems provides organizations with the ability to choose best-in-class applications that will work seamlessly together to support a customer-driven enterprise [see illustration on the opposite page]. Based on XML and web services standards such as BPEL4WS, XSD and XSLT, the solution lowers development and maintenance costs, and ensures the added benefit that organizations will not be locked into an architecture that becomes technically obsolete over time, preserving investment costs. It is comprised of three components: (1) a library of industry-specific business processes based on best practices provided by Siebel Systems; (2) a selection of business process design

tools, provided by IBM WebSphere, for modeling and configuring these business processes and for creating new ones; and (3) WebSphere Business Integration's market-leading software, the most reliable, scalable environment in which to execute these business processes. Altogether, these components form the unique IBM/Siebel joint solution in support of UAN, which promises to dramatically reduce the cost and complexity of application integration, and enable organizations to cost-effectively deploy cross-application business processes. The IBM/Siebel joint solution also enables organizations to rapidly respond to business opportunities, optimize organizational performance, and realize unprecedented business value from existing systems.

**Successful integration is more than just an out-of-the-box solution.
It requires a measured, time-tested approach that incorporates today's
business needs and tomorrow's possibilities.**

"Siebel Systems has a good handle on customer-related elements. It knows what the big things are that everybody tries to integrate," says Meta's Hill. "The buyer wants a much lower-cost solution and a much more packaged solution."

GETTING INTEGRATION RIGHT

But successful integration requires more than a solution; it demands a measured,

time-tested approach incorporating today's business needs and tomorrow's possibilities. It also requires that companies closely examine their business processes for opportunities to streamline processes, and reinvent them to reflect best practices in customer-driven integration. From their extensive integration experience, IBM and Siebel Systems suggest the following best practices for integration, which are inherent in their new joint solution:

Four Tips to Achieve Customer-Driven Integration

Putting the customer at the center of an integration project requires a shift in thinking, says Steve Bonadio of Meta Group. He divides customer-driven integration into the following four areas:

Front to back office integration. This is the traditional start of many integration projects, linking front end applications such as sales automation tools and call center software to back end programs like entitlement or billing systems.

Operational to analytical integration. By integrating operational data such as customer support information, companies can use analytical software to build smarter customer policies. Using analytical tools to parse the customer data helps executives improve profitability, or get a handle on such vexing issues as customer churn, for example.

Cross channel integration. By integrating the systems of different sales channels, such as e-mail and voice mail, executives take a major step in building a comprehensive customer profile.

Downstream integration. Companies really need to look at tying the web and e-business elements of their processes to traditional CRM channels for true customer-driven integration.

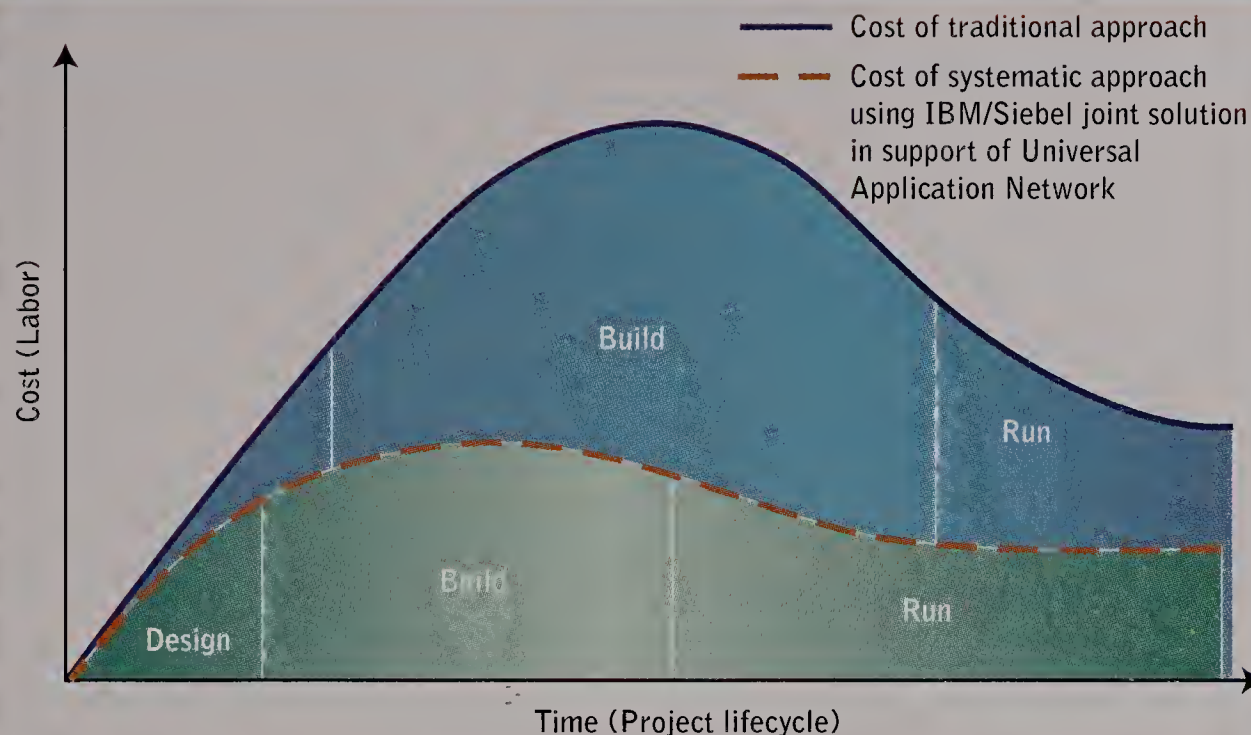
Drive Your Integration Project Based on Customer Needs

Siebel Systems' entire business is based on delivering the highest levels of customer satisfaction and building more profitable customer relationships.

"What we've done is draw on our experience to identify best practices by industry and embedded those practices in the Siebel Systems suite of business process software," says Siebel Systems' Abbo. Siebel Systems has customized its business process software by making processes specific to industries, but also provides tools that let companies easily tailor the software to match their unique requirements. "We expect that customers will mold these business processes to their specific requirements," says Abbo. "It's important to be able to build the processes from end to end to reflect customer expectations for each company." Siebel Systems' best-of-breed approach also means that companies won't have to wrestle with the 'my way or the highway' demands of some monolithic packaged software products. The customer drives the software integration, not vice-versa.

IBM WebSphere Business Integration software, a leader in its market space, comes with a set of pre-built software components that also preclude the need for a lot of custom coding. Not only are these components ready to use practically "out-of-the-box," they come

Lower Total Cost of Ownership...



already equipped with functionality that ensures the security, reliability and scalability of the solution—which often have to be coded separately. A tool set is also provided to help customers take the pre-built components to the next level, to meet their unique needs.

Maximize Integration Return on Investment and Total Cost of Ownership

It's been said before, but it's worth repeating: Time is money, and the faster a project gets finished properly, the faster the company will reap a return on investment, whether through cost savings or revenue generation.

One of the best methods of speeding projects to completion is by using a systematic approach to integration, like the one IBM and Siebel Systems offer, as compared to traditional approaches where companies build it themselves, or use development tools that require mammoth effort. In fact, in the June 2002 report, *"Building the Business Case for Application Integration,"* Gartner analysts Long and Schulte estimate that companies that opt for a systematic integration approach can integrate applications approximately 20 percent faster.

The Total Cost of Ownership of

WebSphere Business Integration software is markedly lower than that of homegrown integration solutions or those of application suite vendors. "The project implementation time is fast because companies can use the ready-made templates instead of custom-coding each element of the infrastructure," says IBM's Sweeney. "And follow-on projects are even faster because you can re-use WebSphere Business Integration components from one project in another."

The low cost of ownership is also due to the solution architecture that is designed to sustain the vagaries of dynamic business environments. "When you implement these business processes on WebSphere Business Integration, they are less susceptible to the changes that inevitably occur at the application end," Sweeney says.

The result: faster time to Return On Investment and lower Total Cost of Ownership.

Build a System for the Future

Integration is difficult enough to do once—how do you ensure that your integration solution will grow with the business as customer needs and market conditions evolve

How to get ROI on Integration

Getting the maximum bang for your buck on enterprisewide integration requires a canny mix of technical savvy and business know-how. Tips include:

- **Use proven integration technology** as the basis for the implementation project to ensure an integration solution that will support your business as it changes and grows.
- **Build a centralized strategy** with executive level support, and run it from an integration competency center. This helps keep costs under control and avoid redundant projects.
- **Streamline development.** By using pre-built business process flows—pre-built solutions that define and orchestrate a sequence of steps necessary to achieve a business objective, such as customer creation, credit check, or quote-to-order—companies can cut project development time significantly.
- **Reuse components.** Experts advise the use of common object models, which are representations of data exchanged among applications, such as customer, order or product. Using common objects reduces the number of data transformations between applications from Order N2 to N, saving coding time and speeding project development.
- **Use point-to-point integration only where appropriate.** Costly to code, point-to-point integration is brittle and prone to breakdowns. And since it's not centralized or built in a standard manner, it's even more expensive to maintain.

over time? "The vast majority of companies have a large and complicated application infrastructure," says Siebel Systems' Sunday. "Your approach to integration has to be able to deal with that complexity."

The smart CIO will build an integration platform that is flexible and agile enough to grow with the business, and be able to accept

next-generation integration technologies such as web services. That means using a standards-based solution. "If you can base every aspect of your integration plan on widely accepted standards, it'll be a key enabler to facilitate cost effective, scalable integration," says Sunday.

Being entirely standards-compliant, the IBM/Siebel joint integration solution assures CIOs that their solution will meet the future technology requirements of their IT environment. "CIOs want a flexible solution so that integration doesn't become a stumbling block," says IBM's Sweeney. "They don't want to be forced to use a proprietary solution. By using a standards-based approach, customers can use our solution no matter what platform they standardize on."

THE BOTTOM LINE ON INTEGRATION

What it all boils down to is this: CIOs must choose projects that will deliver significant business value, either through cost reductions or profit boosting. That's why they are intrigued by the possibilities inherent in creating an enterprise that has fine-tuned its business processes to maximize value to its customers. With that mandate, many IT leaders are turning to technology companies that can help build a customer-driven business, not just implement technology.

"At the end of the day, I think we're on the cusp of a new movement where organizations are really going beyond system-to-system integration," says Meta's Bonadio. "They're really taking the discipline several layers up to focus on the business processes."

Because in the end, customer-driven business process integration is about becoming a customer-driven enterprise. The technology is just there to help. •

To find out more about Siebel Systems' best-practice business processes and IBM WebSphere Business Integration in support of UAN, point your browser to: www.ibm-siebel.com/us/bp

This report was written by Carol Hildebrand, a business and technology writer based in Wellesley, Mass.

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Thin Frame	Yes	Yes	Yes	Yes	Yes	Yes	Yes
DDC/CI	No	No	Yes	Yes	Yes	Yes	Yes
No Touch Auto Adjust	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Integration Capable	Yes	Yes	No	Yes	Yes	No	Yes
LiquidView™ Software	No	No	No	Yes	Yes	Yes	No
Multimedia	No	No	Yes	No	No	Yes	No
Vacation Switch	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cable Management	Yes	Yes	Yes	Yes	Yes	Yes	Yes
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Continued from Page 56

Furthermore, there was no easy way of tracking inventory or sudden price spikes, which are common in an industry where the weather plays a large role in determining both quantity and quality of the grapes.

If sales reps had improved access to inventory and price data, as well as each customer's order history, they would be more productive, Burrows believed. Based in San Francisco and responsible for Southern's Web presence (though not corporate IT), he thought that wireless devices with access to the corporate systems could do the job.

The reps thought so too. Most reported wasting several hours a day researching vintages, checking voice mail for order status, and calling the main office for inventory and price updates. They all thought that wireless devices would help them close deals and improve customer service.

Meanwhile, consultants told Burrows that making the data from Southern's main-frame-intensive back-end systems (which have been highly customized over the years and update information in batches) available to devices in real-time would cost many millions of dollars. But sales reps didn't *need* real-time info. Most gathered what they needed—such as price changes and order status—in the morning and spent the rest of the day selling. Converting the back-end systems to allow real-time inventory updates wasn't worth it. "We're not an emergency room," says Burrows.

Instead, Southern spent \$1.5 million to extend the batched data from the back-end systems to wireless devices and about \$1 million for devices for half of the company's 2,000 sales employees. It will spend another

3 Reasons Why Wireless Projects Fail

LACK OF BANDWIDTH

CIOs trying to extend core applications to handheld devices soon discover that wireless data networks are many times slower than conventional 56K dial-up connections; 802.11 wireless LAN innovators using fat-client devices are learning the same thing.

SPOTTY COVERAGE

Just like cell phones, there are dead spots where devices can't connect. Furthermore, connections can be dropped without warning. No one is going to risk a purchase or stock trade when there is no guarantee it will go through.

INSUFFICIENT SECURITY

A hacker can decrypt most wireless data transmissions in a New York minute using software readily available on the Internet. For this reason, Pentagon CIO John P. Stenbit recently banned the use of some wireless devices in military buildings. —B.W.

\$1 million as it extends wireless devices to the rest during the next six months. An initial pilot with 20 Northern California sales reps and a second trial with 50 people in Southern California helped Burrows design the access application. Now, sales reps spend five minutes downloading updated inventory, pricing and customer information to Windows Wintel or Windows CE compatible devices through either a wireless or dial-up Internet connection. Reps can also enter sales and customer information through the devices, again either through a wireless connection or dial-up.

The benefits are twofold. If, for example, a restaurant manager wants a brand of Merlot and Southern is out of it, the rep can say so and recommend a similar wine on the spot. Also, thanks to the customer profile he just downloaded, the rep can remind the

manager that he normally carries Tanqueray gin, thereby picking up an order that he might otherwise miss. Second, placing orders through the device's Web-based interface is more reliable than the old automated number-code system. With the old method, reps would find a pay phone and punch in the item number. Then they'd get a notice confirming that the order had been placed, not what the order was for. "If you wanted Beringer Chardonnay you might enter 12345," says Burrows. "But if you enter 12346 by mistake, you could get Mondavi." The mistake wouldn't be noticed until a truck delivered the order. Last year Southern saved \$150,000 in California alone by eliminating shipping mistakes.

The biggest return, however, is in increased sales. Burrows admits that attributing a percentage of increased sales to the wireless project is tricky—who's to say it isn't because you got lucky or worked harder? he notes. But by tracking order history and conducting interviews with customers, as well as considering overwhelming anecdotal evidence, Burrows credits a 1 percent to 2 percent increase in sales in California—about \$10 million (a figure he calls conservative)—to the wireless project.

"REALISTICALLY, YOU SHOULDN'T TRADE YOUR 401(K) AS YOU'RE WALKING THROUGH THE AIRPORT."

—CITISTREET CIO BARRY STRASNICK, EXPLAINING WHY HIS COMPANY ABANDONED A WIRELESS PROJECT TO EXTEND WEBSITE CAPABILITIES TO HANDHELD DEVICES

Stuck in Nashville with the Memphis Blues Again

BIRMINGHAM-NASHVILLE EXPRESS (BNE) is a midsize transportation company with a fleet of 80 trucks, 65 of which are big rigs that make deliveries throughout the eastern United States. Rick Osgood, CFO of the Nashville, Tenn.-based company, says that he thought he would have to put in a wireless system when his customers started demanding to know where their freight was in real-time. In fact, the customers never did, but when BNE had to replace its fleet management system for Y2K, it bought a system that was wireless compatible.

At first BNE used its old tracking and management method with the new system. Every day, drivers would phone in their location between 8 and 9 in the morning, and again between 4 and 5 in the afternoon. "Unless we had a problem, we didn't hear from them at any other time," says Osgood. If, for example, a driver was on his way to Chicago and "we heard he was in Bowling Green in the morning, we'd figure he'd make it by mid afternoon." They did—mostly. But Osgood recalls lots of times when he'd tell a customer a delivery was on its way and he really didn't know. "It's disconcerting," he says. "You have to hope you're right."

Two things would happen

when drivers checked in: 1. they would lose drive time; 2. they would either have short conversations or leave messages with overwhelmed fleet managers who rarely captured everything.

Between December 1999 and March 2000, after upgrading the management system, BNE installed a satellite-based fleet tracking system from Owings Mills, Md.-based Aether Systems for an initial cost of \$15,000 plus \$2,000 per truck. With training, that added up to

\$150,000. The system let BNE capture real-time location information about its fleet, and saved the drivers stop time. Cell phones would have also saved time—and cost less—but many drivers still would have been forced to leave messages. And always-connected mobile devices don't have the range that truckers need.

Osgood reports that the investment has produced an immediate return. Excluding freight rate hikes, revenue per truck per day has increased from 7 percent to 10 percent, he says. That adds up fast, and Osgood says that the increased truck revenue has already led to a 115 percent ROI, approximately \$175,000. That doesn't even take into account increased efficiency at the home office. BNE no longer needs staff to answer phone calls from drivers and check voice mails, and Osgood says that those managers have been reassigned. The additional location information also leads to better customer service, allowing Osgood a measure of peace of mind when people ask him where their cargo is. **CIO**

If you have a best practice for wireless projects, contact Staff Writer Ben Worthen at bworthen@cio.com.

BIRMINGHAM-NASHVILLE EXPRESS

ANNUAL REVENUE:
\$10 MILLION

Project:
Fleet tracking

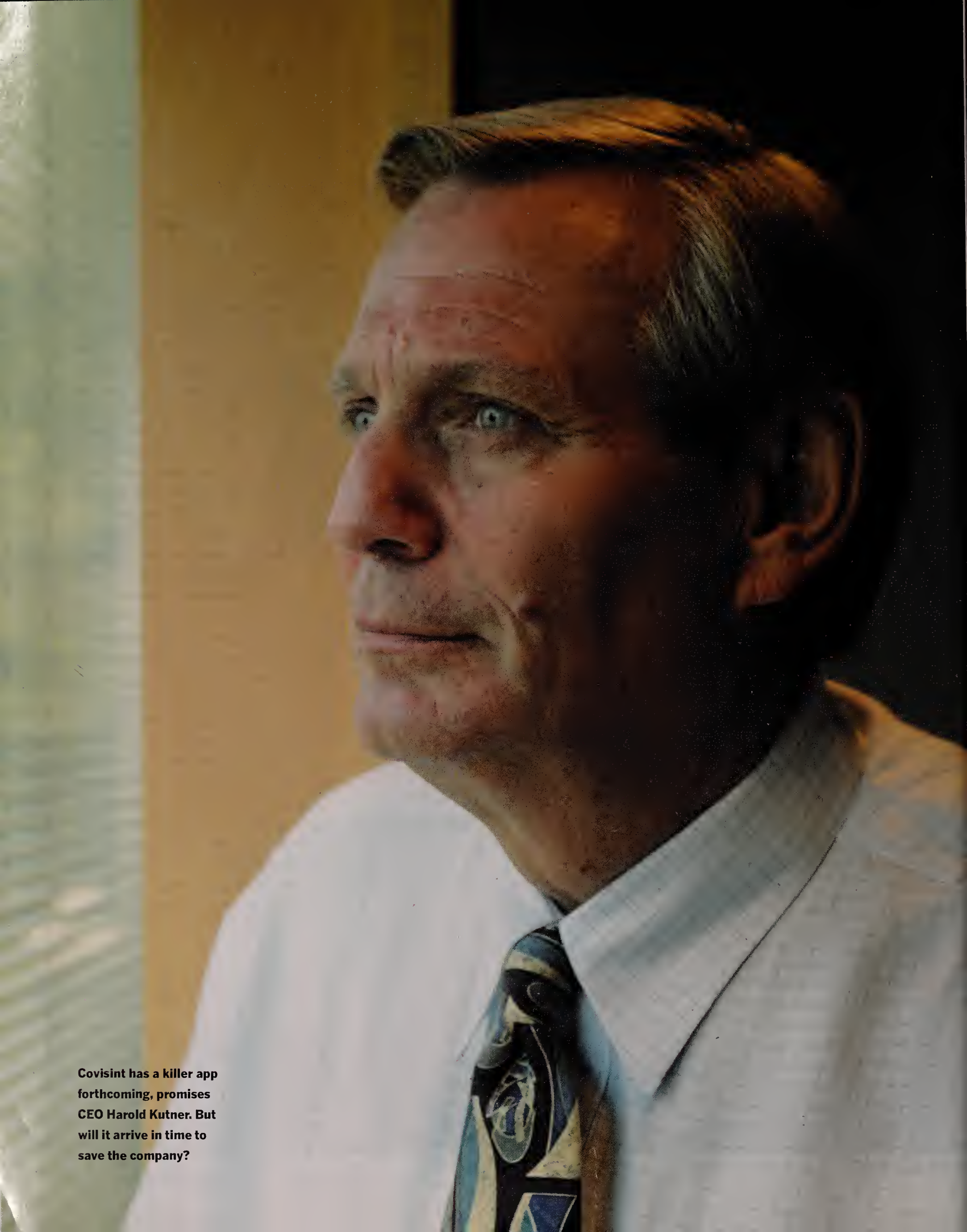
Cost of project:
**\$150,000 plus
maintenance**

ROI: **\$175,000**

Birmingham-Nashville Express CFO Rick Osgood reports that by tracking the company's fleet in real-time, it has already realized a 115 percent ROI in increased per-truck revenue.

peer resources

CIO's sister publication, CSO, says wireless is "robustly insecure." Check out why your chief security officer may say the same. Find a link to the article at www.cio.com/printlinks.



Covisint has a killer app forthcoming, promises CEO Harold Kutner. But will it arrive in time to save the company?

Can an old car guy come out of retirement and save one of the icons of the new economy? In an exclusive Q&A, Harold Kutner says that's exactly what he's going to do. BY CHRISTOPHER KOCH

Covisint's Last Chance

HAROLD KUTNER IS COVISINT'S LAST CHANCE. That's because this GM insider—its purchasing chief until he retired in 2001—was also its first chance, helping to form the auto industry e-commerce exchange with his bitter rivals at Ford and DaimlerChrysler. Both of those companies, like GM, had begun building their own public exchanges to conquer

the industry before deciding to throw in their lot together with Covisint. Wall Street analysts valued Covisint at \$5 billion at its formation in early 2000, at the height of the Internet bubble. These days, however, it's not clear that the auto industry needs even one public exchange, much less three.

Seething enmity and mistrust between vehicle manufacturers and their suppliers aside, Covisint (pronounced CO-viss-int) has not developed a product or service that has caused either group to completely

abandon its old ways of doing business. Kutner was lured out of a brief retirement last June to find a winning path before the bureaucracies within the Big Three automakers and the skeptical supplier community write off the exchange altogether.

It's ironic that the gravely voiced, plain-spoken Kutner, who spent 10 years beating down suppliers on prices for tires, steering systems and the like, is now trying to sell them on a new-economy vision as Covisint's CEO. But if suppliers don't necessarily like him,

they do respect him. He knows their business better than the dotcom types who were steering Covisint. He may also be able to twist some arms inside the Big Three, which have shown a

Reader ROI

- How Covisint has survived the dotcom shakeout—so far
- Why Harold Kutner believes he can lead the exchange to success
- What other public exchanges can learn from Covisint's missteps

reluctance to drop their own e-commerce ambitions. "He is a leader, and he is respected in the Big Three," says Anjan Chatterjee, North American director of the automotive and assembly practice in the Detroit office of consultancy McKinsey & Co. "So if you define his charter as forging consensus—agreeing to define what is sharable and should be shared in the interests of the entire community of OEMs as well as suppliers—I think he will be heard."

Whether Kutner can get suppliers to do more than listen is still a very open question. He claims that more than 11,000 auto parts makers have used Covisint in some fashion, but they provide only 10 percent to 15 percent of the exchange's revenue—which means they are dabbling. (Car makers account for the other 85 percent to 90 percent of revenue.) Kutner will have to do without anymore subsidies from the Big Three, which each own nearly a third of the exchange and have put a total of \$200 million into it so far but are now struggling themselves. He slashed staff and expenses and says Covisint will be "cash-flow positive" by the end of 2002. He knows the Big Three are looking for more than that, however, and he promises to make Covisint the electronic hub of the auto industry for both manufacturers and suppliers. The odds against success are great, but Covisint is Kutner's baby, and he refuses to give up.

CIO: How has the technology vision of Covisint changed over time?

Harold Kutner: When we started, the vision was, How can we connect with our supply base and go to market with a process that doesn't cost more than the one we already had? I think that vision came true, but the vision expanded when we started thinking that the [biggest direct suppliers to the auto manufacturers, the tier-ones,] would be connected to various tiers of their [own] supply base [through Covisint]. So now you move from just a procurement-type process to an industry-connected-type process.

And yet we hear about how suppliers have resisted using Covisint. What are the primary reasons for that?

Well, for one thing suppliers feel this is a manufacturer-owned company. So there is a little bit of lack of trust, where they think if they [make purchases through] Covisint that the car companies would find out the prices they're paying—and if they save a lot of money, car companies are going to go

after them [for price breaks]. Now obviously, no company with any integrity would share pricing, but there is that feeling of lack of trust out there.

The second thing is that OEMs have run thousands of auctions with the suppliers. Some suppliers have won business through them, and some have lost business. So when you talk about Covisint, there is a little bit of a bad taste because

Covisint's IT Toolbox

What the auto industry likes, and what it doesn't

Hits

ADVANCED QUALITY PLANNING

Auto manufacturers track quality during product design and manufacturing, and ensure adherence to key performance indicators that they have set up with suppliers. **WHY IT WORKS** A bull's-eye, because the Big Three have lined up behind the software as their standard, which will make the administrative burden of quality reporting easier on suppliers.

COLLABORATION MANAGER VIRTUAL WORKSPACE

Auto manufacturers and suppliers can view CAD-CAM drawings through Covisint and communicate in real-time. **WHY IT WORKS** The ROI of sharing designs in real-time is limited, but using Covisint's workspace is cheaper than building a new system.

Misses

PORTAL

Covisint hosts private e-commerce websites for automakers and suppliers. **WHY IT DOESN'T WORK** Most suppliers and automakers prefer to retain complete control over their private websites.

PROCUREMENT

Covisint hosts auctions; offers templates for RFPs; hosts a database of pricing information; lets members set up catalogs for buying accessory goods like office supplies and maintenance equipment; and helps sell off excess materials (such as extra steel) and unused capital assets (such as old factory machinery). **WHY IT DOESN'T WORK** Nothing special. Other vendors and exchanges, like FreeMarkets (a popular alternative to Covisint for car suppliers), offer the same functionality without the baggage of being owned by the car manufacturers.

SUPPLY CHAIN COLLABORATION

Car companies and suppliers can track forecasts, inventories and deliveries through the Web. **WHY IT DOESN'T WORK** Nice, but individual car companies have already made some suppliers build systems for this type of data. Unless supply chain collaboration becomes standard across the industry, the cost of integrating with Covisint and killing legacy systems is prohibitive, especially for smaller suppliers.

—C.K.

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FOR SOLARIS 9
LATELY?”**

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people think of auctions, and they think of the way the car companies have used them to drive cost out of their materials. And then there's just an attitude of, We'll wait and see. Is this thing really going to be real? Are the car guys really going to demand that we connect up so we can do business faster and better?

What's your plan for dealing with each of those issues?

We've brought people onto the Covisint board from [big suppliers like] Delphi, Intier, Johnson Controls, Lear and Magna International. We're spending more time with the CEOs of the supplier community. We know these people, and we're opening doors because of the historical relationships we have. Once people get a chance to really see our products, they're very interested; they're positive.

The other thing that we're doing is trying to create industry standard products. In this industry, every car company has a different set of rules and regulations for every business process that they do. One of the products that we successfully made an industry standard in North America is what we call our Advanced Quality Planning product [see "Covisint's IT Toolbox," Page 64]. Part of the feedback that we got from the supply community is that if [the Big Three] can commonize, they can take some cost out of all the business processes and systems. We've got products that respond to the suppliers' needs in common so that they don't have to have different systems for their reporting to each car company.

One road to standardization would be the adoption of these technologies inside the Big Three. Yet there seem to be parallel efforts going on inside the Big Three and Covisint to build similar technology platforms.

Some of this technology was decided on before Covisint. For example, we've got a great product called Quote Manager. It's a Covisint product, but it had a tremendous design influence from GM. On the other



"The car companies are putting a lot of faith in the fact that Covisint can do what it is intended to do, and I think that's a strong message to the supply community."

-COVISINT CEO HAROLD KUTNER

hand, before Covisint started designing its own products in-house, Ford developed its own quote manager. Similar to that, General Motors has got the best supplier communication portal in the world, called GM Supply Power, and yet Covisint is doing portals and Ford, DaimlerChrysler and others are using the Covisint portal. But certainly if somebody's got a product equal to ours, we wouldn't expect them to use [our product], especially if they developed theirs years before Covisint was an operating company.

If you're saying that it's not necessary for everybody to be using the same software, how then do you get that standardization across the industry?

There are ways of having tie-ins to various legacy systems. For example, General Motors goes into Covisint through its Supply Power portal, and when GM connects up with its suppliers using the auction product it's the same for all the suppliers, be it if they go through a Covisint portal or a General Motors Supply Power portal. So the idea is, we're developing software, and if someone already has [similar software], we're trying to put a product in there to connect up to the suppliers and the existing system at the car or truck company.

I've heard that Covisint's revenue is primarily from the reverse auctions, which is a technology that is fairly easy to duplicate. What technology is Covisint going to offer that really differentiates it and gives suppliers and the Big Three value that you can't get anywhere else?

If you think about our competition that just does auctions, the thing that we offer is not just the auction—we offer the connectivity to their major customers. That's what we're trying to drive for.

What is the killer app for Covisint, either

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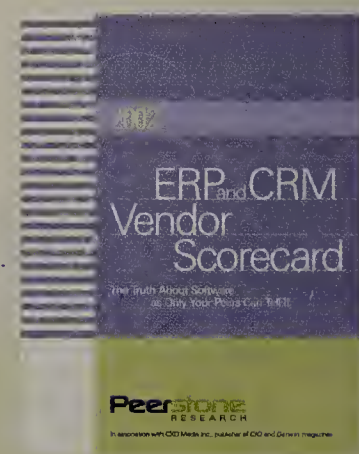
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now or in the future?

Well, I'll tell you this. You'll see the product coming, but I don't think I want to go public with it and tell everybody else what we're doing. Our portfolio process is not stagnant.

You were the head of GM's purchasing for years. In that role you demanded price cuts from suppliers, and you had a reputation for being a hard-nosed guy. Why should suppliers trust you in this new role?

If you really talk to people I did business with, I think you'll find out that people did trust me. I think I helped a lot of suppliers survive. I think my reputation was for being tough but fair, and when I gave my word it was delivered. I think they are going to do business with us because of that reputation. [The car companies] are putting a lot of faith in the fact that this company can do what it is intended to do,

and I think that's a strong message to the supply community.

It's said that no one cares about a company as deeply as the founder does. You called Ford and DaimlerChrysler and said, Let's do this together instead of separately. Are you going to let this fail?

No. I addressed every person in [Covisint] the first day and said, I haven't had a career of failures. I'm proud of that. I have a very strong work ethic. I think I understand the vision of this company, and I intend to win with this company. No matter what it takes, we're going to win. I think the value proposition is there, so we will win.

What would be your advice to other industries starting or in the midst of building their public exchanges?

We spent a lot of time developing products

from the voice of the car manufacturer and didn't spend enough time getting input from the suppliers. I think you've got to understand who your customer base is, and you need strong input relative to what products you are going to provide them, and have a tracking mechanism to make sure that the techies don't deviate from that voice of the customer. I think if you do that, you'll be successful. **CIO**

Can Kutner cut it? Tell Executive Editor

Christopher Koch what you think. Write him at ckoch@cio.com.

peer resources

Interviewer Christopher Koch has been there, done that with Covisint before. Read his article **MOTOR CITY SHAKEUP** for the deep background on the troubled exchange. Go to www.cio.com/printlinks.

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WHILE YOU WEREN'T LOOKING, portals grew up. No longer just a souped-up webpage with a stock ticker and a link to the employee handbook, the portal is emerging as a key component of the corporate IT infrastructure. New portal software products aren't designed, as early products were, solely for managing and presenting Web content. The latest portal products are application-neutral middleware, and many portal vendors supply tools to help companies integrate portals with enterprise applications like ERP, CRM or e-procurement.

As a result, companies are deploying portals to support strategic business initiatives and using them as a tactical tool for managing enterprise applications. A portal helps jet-engine maker Pratt & Whitney pursue a bigger slice of the engine-repair business and enables Menasha, which makes packaging and industrial polymers, to reuse software for multiple business units. Portals also help CIOs get more use out of enterprise systems by hiding their complexity from technologically inexperienced end users.

The importance companies are placing on portals is reflected in CIOs' spending decisions. Although spending on e-business projects was expected to fall in 2002, more than a third of the 874 executives surveyed by Forrester Research said they still plan to buy portal software. Meanwhile, Gartner Dataquest forecast last summer that portal sales would grow an average of 24 percent a year between 2001 and 2006.

Reader ROI

- ▶ What portal technology can do now
- ▶ How companies are using portals to achieve business strategy goals and manage enterprise applications
- ▶ How engine maker Pratt & Whitney makes portals useful to partners and customers

BY ELANA VARON

A man in a dark suit, white shirt, and patterned tie stands in the center of the frame, looking directly at the camera. Behind him is a massive, circular jet engine component, likely a compressor or turbine section, with numerous blades visible. The scene is dimly lit, with a strong light source from the left creating a bright glow on the engine's inner rim and casting a shadow of the man onto the engine's surface.

Pratt & Whitney CIO **Peter Longo** uses a portal to let jet-engine customers track wear and tear. The portal helps boost the company's repair business.

TO BUSINESS

Strategic Portals

Portals appeal to CIOs because they do a better job than earlier products, including business intelligence software and ERP systems, at delivering custom views of information and applications to end users, says David Gootzit, an analyst with Stamford, Conn.-based Gartner. Portals are better at that task than they used to be.

PORTALS BRIDGE LEGACY AND NEW SYSTEMS

"It's hard for people to get data out of our legacy [ERP] system," says Mary Fonder, CIO with Maysteel, a Milwaukee-based maker of components for electronics and electric utilities.

CIOs such as Fonder are using portals to support business strategies and create a competitive advantage for their company. By getting information or executing transactions

through a portal instead of by phone or fax, or accessing a legacy system, employees and customers get work done more quickly, which translates into added sales, bottom-line savings or both.

Maysteel's goal is to make its operations more efficient, in part by standardizing the manufacturing process at each of its six plants in Wisconsin and Ireland. Part of the effort involves scrutinizing manufacturing quality, but getting the right data from the company's ERP system was too hard for anyone who wasn't a power user. With the economy in decline last year, Fonder knew she couldn't afford a new ERP system, so she and her team wrote a portal application that lets Maysteel's executives and quality control staff access the ERP data they need.

It took Fonder the better part of a year to convince her colleagues a portal could help

the company use information more effectively. She made the sale by writing a demo that showed them examples of the applications and data a portal could deliver. "This [portal] was a fairly inexpensive way to get information for people more quickly," she says.

PORTAL AS A CUSTOMER CONNECTION

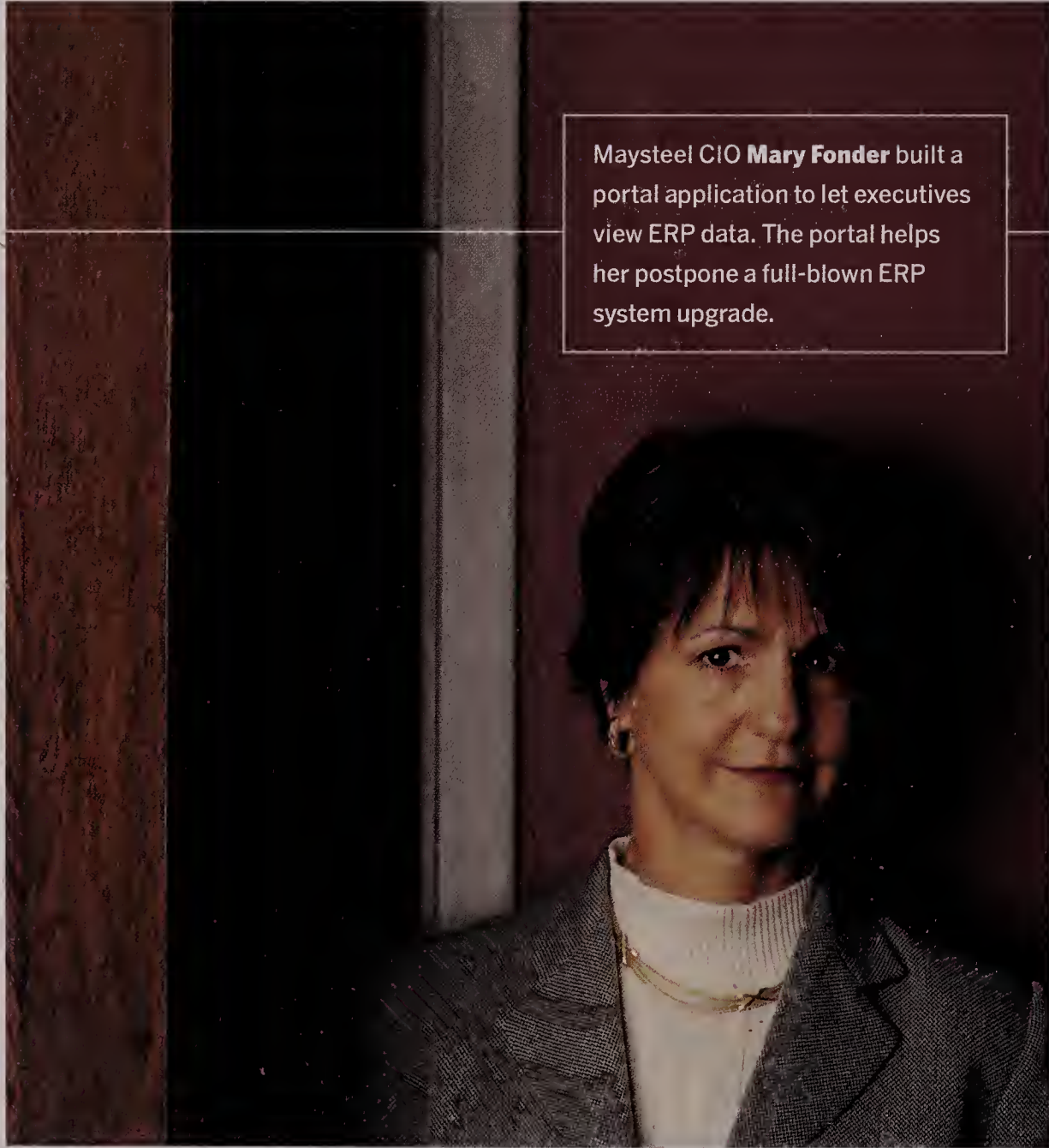
While Maysteel has focused on improving internal efficiency with its portal, two other companies—employee benefits administrator Cigna and Pratt & Whitney—are using portals to attract new customers.

At Philadelphia-based Cigna, Executive Vice President and CIO Andrea Anania claims hers is the first company to integrate data from multiple health-care and retirement benefit plans, and that providing this information through its portal, MyCigna.com, will help the company increase its market share.

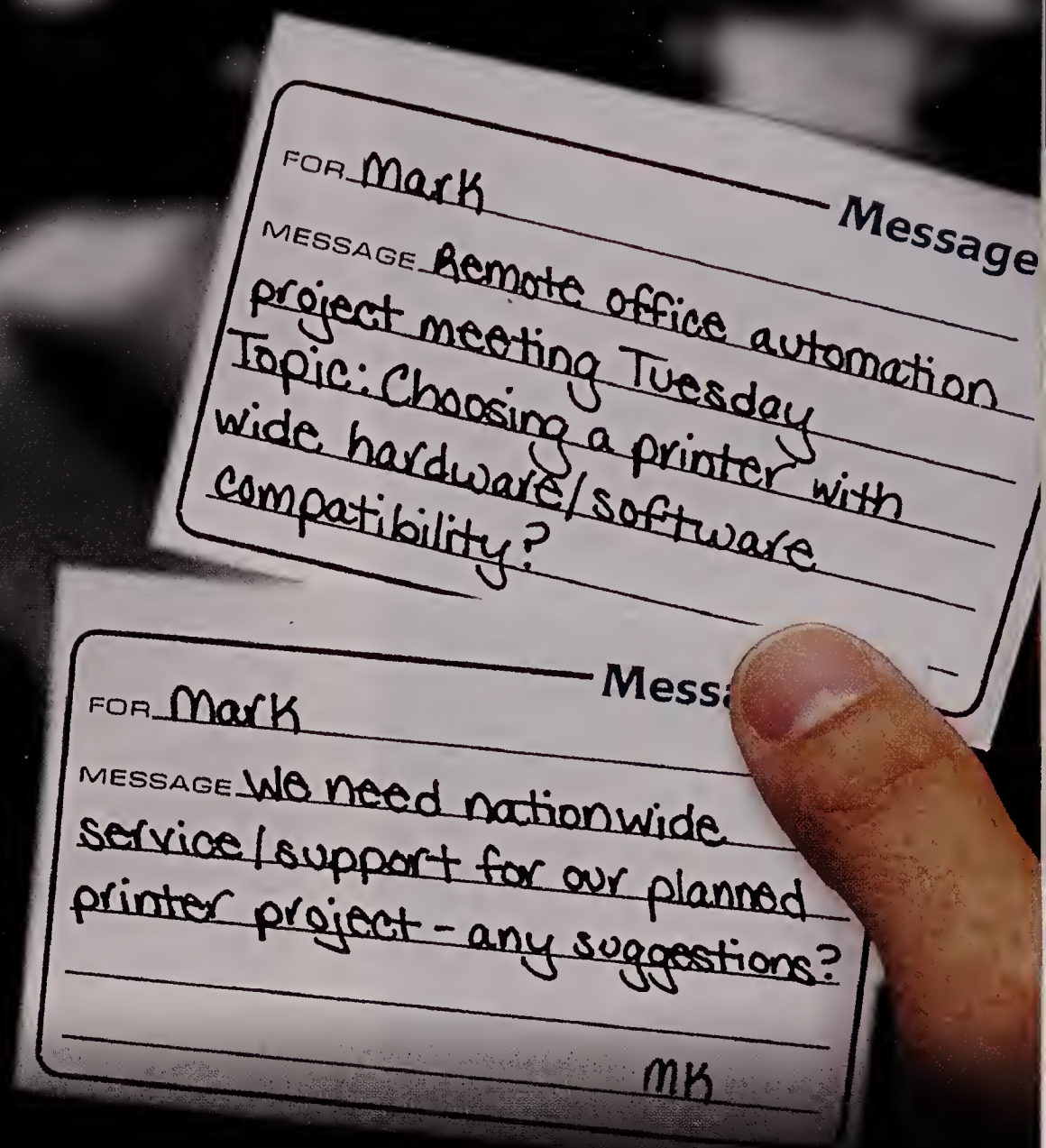
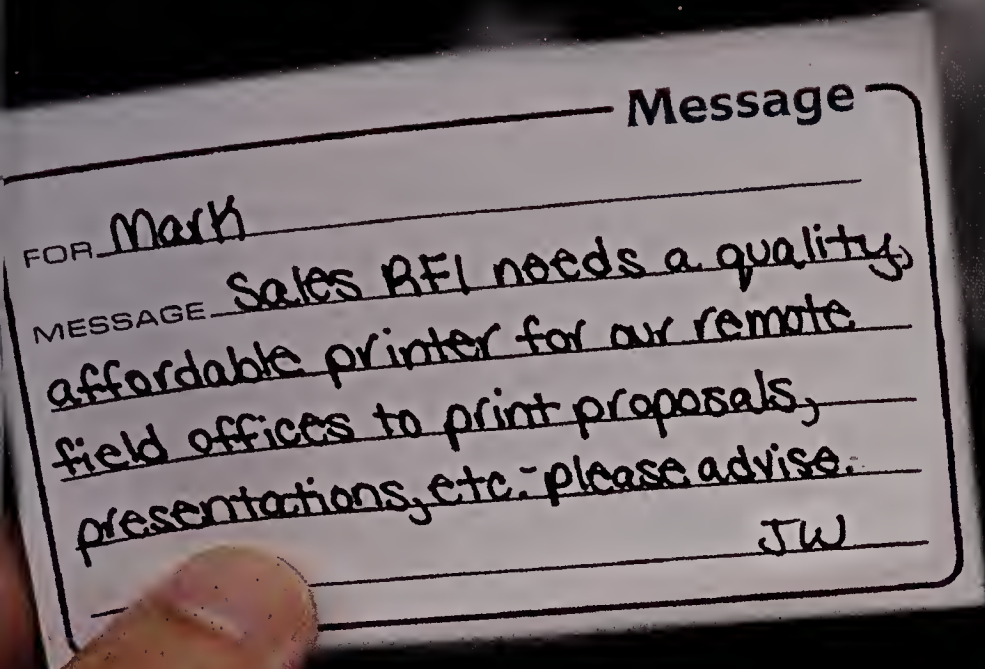
In October, Cigna announced that its customer base would drop between 4 percent and 5 percent by January. Patrick Welch, president of Cigna Healthcare, told investors that problems with an ongoing legacy systems upgrade had contributed to the loss. At the same time, Cigna said it had lost some new customers after raising prices on previously set contracts. Anania says the corporate HR departments that choose health insurers and 401(k) plan administrators look for vendors that offer robust employee self-service.

"It takes work off [HR representatives'] desks and makes the benefits package more visible to the employee," and that, Anania says, makes Cigna more attractive. According to Cigna's market research, many workers would manage their health and retirement benefits more actively if they had "adequate online tools." By early September, 348,000 of Cigna's 14.9 million customers had signed up for the portal that went online in June.

CIO Peter Longo of East Hartford, Conn.-based Pratt & Whitney is using a portal to help his company capture more repair business from customers that buy its jet engines. A division of manufacturing behemoth United Technologies, Pratt has a corporate portal that, during the past two



Maysteel CIO **Mary Fonder** built a portal application to let executives view ERP data. The portal helps her postpone a full-blown ERP system upgrade.



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years, has grown to support up to 4,000 employees, suppliers and customers using more than 100 applications. Among them is an application that helps the company reduce by 30 percent the time it takes to overhaul an engine. Pratt is using the improvement as a selling point to expand the engine-repair business, a \$37.8 billion market in 2002, according to Denver-based consultancy Strand Associates. (Pratt declines to share market data but says it has manufactured 41 percent of the jet engines currently in service worldwide.)

Bruce Strand, CEO with Strand Associates, says using Web-based management tools has become common in the jet-engine industry as manufacturers try to win ongoing revenue from airlines' maintenance and repair business.

Pratt's Longo notes that just as car owners can choose to get a tune-up from a local mechanic rather than the dealer, airlines don't have to return their engines to Pratt for regular maintenance. Many airlines, he says, have their own overhaul shops, and they choose whether to do the work in-house, send it back to the manufacturer or use a third party based on cost and time. By viewing the maintenance

status of their engines through the portal, airline customers and Pratt engineers can make quicker decisions about whether to wait for one of an engine's 28,000 parts to be refurbished or to install a new one.

"The customer is required to make these sorts of decisions about 100 times per engine," says Colin Karsten, a client services manager at Pratt. The quicker these decisions are made, the sooner the multimillion-dollar engine is ready to fly again, saving the airline the cost of keeping its plane grounded.

If Pratt & Whitney can get repairs done faster than its competitors, it expects to get a larger share of the repair business. And the company is using its portals to get there.

That's not to say that portals aren't still doing what they've done for years: connecting employees with headquarters. Longo says Pratt & Whitney's portal is helping the company get more use from its SAP investment. One example: Engineers—who, like lawyers, charge their time to specific projects—used to have to be at the office to fill out their time sheets in the company's SAP system. But these engineers do a lot of traveling. Now that they can access the system from

Portal, Defined

Software hides back-end complexity from Web browser users

A PORTAL IS SOFTWARE that presents customized information and transactions to end users through a Web browser. Think of it as a wrapper that hides the innards of your systems from the user, or a template that lets you, or users, plug in the information or applications you need. Unlike an intranet or extranet, which only help companies distribute information on the Web, a portal also lets users run applications, such as checking the status of an order in a supplier's ERP system.

Portals attract labels. A *vertical portal* addresses one aspect of a business, such as a human resources site that lets employees sign up for training classes and view pay stubs. A *process portal* provides access to information and applications that support specific business processes.

An *enterprise portal* gives end users access to multiple types of information and applications through a standard interface: e-procurement software and the accounts payable system for company buyers; order status and accounts receivable applications for the customer service reps; time and attendance records for everyone. Save the stock ticker for when the economy improves.

—E.V.

Cigna CIO **Andrea Anania** adds functions such as instant messaging to a customer portal in an effort to improve service and boost sagging market share.



outside the firewall through the portal, the company's personnel and project cost records are more accurate. While time sheet score-keeping is not a big business problem, Longo says, the application is popular with staffers.

A PORTAL MAKES A GOOD APPLICATION FACTORY

Although the portal-based applications like those at Pratt & Whitney and Cigna sound elegant, they didn't arrive there overnight. Anania laid the groundwork for Cigna's portal during the past three years, as the company invested in a shared e-commerce infrastructure. During this period, each business unit was developing its own Web-based applications that then had to be integrated into the portal. In the future, Anania will be able to use the portal to deliver common applications to customers of each business unit. Up next: instant messaging between consumers and Cigna service representatives.

Other CIOs who have deployed portals also report that the technology helps them to manage applications and data centrally. The IS department, in turn, becomes an in-house

application service provider.

Neenah, Wis.-based Menasha provides custom portals for 250 customers of its five operating companies—a total of 3,000 end users representing \$70 million in sales in 2001. Customers are able to place orders and view order status, inventory and logistics information from Menasha's SAP system, as well as share online design collaboration tools.

Though the data presented through the portal is different for every customer of every business unit, all the customers use the core applications to access what they need. Menasha Vice President and CIO Edward Wojciechowski says that by delivering shared applications through the portals, he can deploy them quickly as they're needed. For example, Wojciechowski's team was able to take an order-tracking application written originally for Menasha's customers and reuse it for the company's internal sales force. "We have a framework [that gives us] the opportunity to deploy the content [users] want," he adds.

The Maids Home Services International is another company that uses its portal as a

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Strategic Portals

customer connection center. At the Omaha, Neb.-based housecleaning services company, a portal has been essential for distributing corporate documents to its 140 franchises.

Though franchise owners are required to have computers and Internet connectivity, many weren't very tech savvy when Director of IT Tony Vola deployed the portal two years ago. The attitude of many franchise owners, relates Vola, was "technology—who needs that stuff?" He chose a portal in part because it would be easy to use.

Distributing documents through the portal ensures the information franchise owners have—from operations manuals to memos about new cleaning procedures—is up-to-date and accessible to everyone. The home office saves money because it no longer has to mail reams of paper documents. John Gibbs, a franchise owner in Austin, Texas, who was part of a group that pushed for the portal, says he finds the site useful for obtaining marketing and advertising materials that he can easily tailor for his business. (Gibbs sends customers a quarterly newsletter.)

But Gibbs, a retired Air Force colonel, says he gets the most value from the portal's online forums, where he can discuss business problems with other franchise owners. Gibbs and some colleagues used to run an e-mail discussion group to exchange advice, such as tips on how to repair damaged marble. The mailings became difficult to manage, so Gibbs and his colleagues pressed headquarters to provide chat rooms. As a result, corporate provides the administration, such as updating e-mail addresses and cataloging discussion threads. "That's what we wanted them to do, take care of the administrative stuff and let us talk," says Gibbs, who recently turned to the online forum to ask colleagues to review new features on his franchise website.

THE BEST PORTALS FADE INTO OTHER APPS

That Gibbs finds a professional networking channel at The Maids Home Services portal is not surprising. It meshes with the long-standing promise of portals: helping companies use the Web to extend existing

applications and discover new ones.

"Portals allow you to push a lot of investment in back-end systems and dumb it down" for end users, says Nate Root, an analyst with Cambridge, Mass.-based Forrester. You could not, in fact, make a business case for the portal separate from the apps that run with it.

Wojciechowski says Menasha built its first portal with some internal "venture capital" he got from the board to develop an e-commerce strategy, but he always saw it as a tool for taking costs out of the supply chain. Some of those costs—such as time spent on the phone chasing down order information—have come out of the customer's operations as well as Menasha's. That's helping the company retain customers and even increase revenue. Wojciechowski says he's spent about \$1.2 million on the portal so far, and he figures the company has gained about \$1.4 million in new business—about 2 percent of revenue from portal users. Overall, the company, which logged just under \$1 billion in net sales in 2001, saw business decline 6 percent.

At Pratt & Whitney, Longo counts the portal as part of the company's IT infrastructure and says he can't specify a return on the investment. Instead, he talks about the return the

100 Portals for 4,000 Users

Pratt & Whitney continues to add functions and applications to its portal collection

Jet-engine maker Pratt & Whitney was an early adopter of portal technology. In three years, the company has built more than 100 applications supporting 4,000 employees, suppliers and customers. Here's a sample of Pratt's portal capabilities:

Parts repair tracking. Customers can view data about the status of jet-engine repairs online. Site has reduced e-mail traffic about repair questions by 1 billion messages a year.

Time and attendance. Employees can fill out time sheets online from anywhere.

Online warranty claims. Allows customers to file claims and check their status online.

Supplier portal. Access to long-range purchasing forecasts and delivery schedules for 450 parts suppliers.

Wireless diagnostics. Application under development would allow technicians to have remote access to engine performance data—eventually while engine is in flight—to diagnose engine malfunctions and make repairs more quickly. —E.V.

company gets from specific applications that run on the portal, such as the hours saved by generating online the bar-coded shipping labels suppliers need to ship parts to manufacturing plants. This and other supplier-related portal applications save Pratt 650 hours a month on receiving and warehousing operations. Meanwhile, at The Maids, Vola justified his portal project based on how much it would reduce the cost of mailing paper documents.

Anania says she'll measure the success of Cigna's portal through customer satisfaction surveys and by comparing usage of the portal with "what we were accustomed to seeing relative to hits on the homepage." But the impact on the bottom line will be harder to measure. "We expect it will help us with retention," she says, but customer retention is hard to attribute to any one factor. "If it's been running at a steady state level and it improves, [I'm] confident the portal contributed to that." **CIO**

Senior Editor Elana Varon covers B2B e-commerce. Reach her at evaron@cio.com.

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Leasing equipment can be an attractive
(and cost-effective) alternative to buying it—if you
study these lessons

BY LAFE LOW

A Lesson On LEASING

The infrastructure needs behind Weather.com's operations are a lot like Mother Nature herself—difficult to predict and constantly changing. The online weather forecasting site, which is affiliated with The Weather Channel, gets an average of 10 million page views per day, but when a major weather event is looming, that number can surge to 40 million. Owing to the unpredictability of its traffic volume and the imprecise nature of weather forecasting, Weather.com relies on 123 IBM servers to accommodate the myriad weather watchers who flood the site in search of continuously updated information.

So how does Vice President of Technology Dan Agronow know his servers are going to be able to keep up with demand spikes and general growth? For starters, he upgrades every two years. Rather than purchase his systems, however, Agronow leases his equipment as a way to facili-

tate those scheduled upgrades. "By doing a lease, you can refresh your whole environment," he says. "This is definitely a benefit because you can keep your infrastructure homogeneous." Agronow adds that short-term lease agreements not only enable him to maintain technological capacity and compatibility but also provide a sufficient ROI.

And Agronow is not alone. Rob Enderle, vice president and research fellow at Cambridge, Mass.-based Giga Information Group, says the IT leasing market has grown steadily in the past few years. Businesses are turning to leasing for several reasons, he says, such as an increased difficulty in obtaining capital for equipment expenditures, flexible

balance-sheet reporting and regular equipment replacement cycles. In addition, the market is expected to grow from \$10.7 billion in 1999 to \$15.9 billion by 2003, according to "Status and Outlook for the U.S. IT Leasing Marketplace," a study from Arlington, Va.-based Equipment Leasing Association.

Reader ROI

- ▶ Know when to buy and when to lease
- ▶ The different types of leases
- ▶ What questions to ask before signing on the dotted line

UNDERSTAND THE BASICS

Making the decision to lease or buy is not for the faint of heart. There are more complicated factors to consider beyond comparing the anticipated return for leased equipment with that of a purchase. Read on to learn some basic tenets.

» **INITIAL CAPITAL OUTLAY** If the total cost of equipment exceeds the available operating budget, leasing may be one way to avoid an initial capital expenditure.

» **INTEREST RATES** Changes in interest rates will affect future payments and the total financial commitment of the lease. For instance, if the lease is renegotiated, the inter-

est rate applied to remaining payments could change, affecting not only the monthly payment but the total amount paid out over the life of the lease.

» **DEPRECIATION** If you are procuring equipment that depreciates rapidly, consider a short-term agreement, and exercise the right to return and replace the equipment at the end of the lease term.

» **TAX LIABILITY** Depreciation can be used to offset income for tax purposes. That can be beneficial with equipment that depreciates so quickly that the dollar value of depreciation can be applied against earnings

to limit tax liability.

» **FAIR MARKET VALUE** Monitor the fair market value, or current resale value, of the equipment when deciding whether to return or purchase it at the end of the lease term. For instance, it may make sense to purchase equipment that maintains a high percentage of its original value.

» **LENGTH OF LEASE** Set up lease-term lengths that don't extend too far into the useful life of the equipment. For example, you wouldn't want to lease 1,000 PCs for three years if they're likely to depreciate significantly in two years.

THE RESTRICTIVE SIDE OF LEASING

While leasing provides flexibility in regular upgrades and balance-sheet reporting, it can be restrictive in other aspects. "You are locked into a cycle," Giga's Enderle says. "If you want to keep the equipment longer, it's more difficult to do so." Likewise, ending a lease before its term is up can result in additional costs from early termination penalties.

Obviously, leasing will help you avoid a large capital outlay required for a purchase, but the cumulative expense over the lease life cycle may be higher. "You are paying a premium to borrow money," Enderle says. For example, if you made a \$5,000 down payment on a two-year lease for \$50,000 worth of equipment with an 8 percent interest rate, you'd get a monthly rate of \$878. To purchase that equipment with a capital loan, the monthly loan payment at the same interest rate would be \$2,035. However, the net cost for the loan is \$22,677, whereas the net cost for the lease is \$26,997. (The lease is higher because it includes additional charges associated with purchasing the equipment at the end of the lease term.) In this example, an organization concerned with making the lowest possible monthly payments would likely opt for a lease even though the total payout is higher.

Asset management is another challenge. Because leased equipment must be returned in its original condition, keeping track of leased equipment and system upgrades in the interim is critical. "If you don't do a good job of inventory management, you might find yourself scrambling," Agronow says. If you've added memory to the leased hardware, for example, you'll have to accurately record that information so that you don't inadvertently return the additional equipment to the leasing organization.

In addition, Agronow recommends scal-

ing the lease term to match the anticipated return from the equipment investment as well as considering the equipment's useful life cycle. "Do you do 18 months, 24 months, 36 months?" he asks. "Some of that is [determined] by growth rate and some by the technology you're leasing. How fast is it going to change, and how much of an effect is that going to have on your environment?"

CIOs considering a lease should also ask the leasing organization whether it will retain ownership of the lease. "The company may get sold or bought, and you could end up with a nasty group of folks," Enderle says. To that end, a lessee should push for an escape clause that facilitates early termination of the agreement in the event of a sale or transfer should the lessee prefer not to do business with a new lease owner.

LEASING OPTIONS DEFINED

While every lease is customized to each transaction's particulars, the fundamental choice is between an operating lease or a finance lease. "An operating lease is more desirable by corporate clients because it allows them to treat [payments] as an operating expense," says Mike Ross, vice president of technology investment at Relational Funding, a technology lessor based in Rolling Meadows, Ill. With a capital or finance lease, businesses have to show payments as a direct expense and account for depreciation on the balance sheet, he says.

OPERATING LEASE With an operating lease, limitations imposed on the length of the lease and the total value of the payments protect the lessee from overpayment, resulting in lower monthly payments. Ultimately, the lessee does not pay the full value of the equipment. Operating leases also offer tax advan-

Glossary

▶ **Economic life (Useful life):** The period of time during which leased equipment is useful and maintains value.

▶ **Fair market purchase option:** An option to purchase leased equipment at the end of the lease term at its prevailing fair market value.

▶ **Finance lease:** A finance lease is a full-payout, noncancelable agreement in which the lessee is responsible for maintenance, taxes and insurance.

▶ **Operating lease:** Any lease that is not a capital lease. This is generally used for a short-term equipment lease. The lessee can acquire equipment for a fraction of its useful life. Additional services such as maintenance and insurance may be provided by the lessor.

▶ **Present value:** The current equivalent value of payments or the stream of future payments. The present value will vary with interest rates applied to future payments.

▶ **Purchase option:** A provision in which a lessee has the right to purchase the equipment at the end of the lease for a specified amount or fair market value.

SOURCE: EQUIPMENT LEASING ASSOCIATION

tages because payments are treated as off-balance-sheet costs. That also improves the return on the leased assets and the earnings reporting. "An operating lease gives the most

The IT leasing market is expected to grow from \$10.7 billion in 1999 to
\$15.9 billion by 2003.

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flexibility with the balance sheet," says Ross. "It's not treated as a depreciating hard asset; it's treated as an operating expense."

The parameters that define operating leases are collectively known as FASB 13—lease characteristics defined by the Financial Accounting Standards Board to ensure a fair transaction between lessor and lessee. For example, FASB mandates that the length of a lease cannot exceed 75 percent of the useful life of the equipment. Also, the payment stream, or total amount of lease payments, on a present value basis must not exceed 89.9 percent of the cost of the equipment, again as protection against overpayment. Present value refers to the total value of all monthly payments, including all interest paid during the life of the lease. Therefore, the present value can change with adjustments to the interest rate applied to future payments.

An operating lease is often the best way for a company to make the lowest possible payments for the leased equipment, which is why small companies or those operating under intense budget constraints may prefer this type. Operating leases are also suitable for organizations in technology-reliant industries such as financial services or telecommunications needing to upgrade equipment on a regular basis.

FINANCE LEASE A finance lease is a full-payout or nonequity transaction. In other words, the full value of the leased equipment is paid for (plus interest) during the life of the lease agreement. Besides the regular lease payments, the lessee is also responsible for maintenance, tax and insurance charges. A finance lease is similar to an automobile lease, where the lessee pays a certain percentage of the vehicle's value during the course of the lease, then the remainder (plus interest) at lease expiration.

CIO.com Intimidated by IT leasing terminology? We can help. See our complete **GLOSSARY OF LEASING TERMS** at www.cio.com/printlinks.

Put Down That Pen

The Equipment Leasing Association of Arlington, Va., advises clients to ask the following questions before putting the pen to the dotted line

1. How do I plan to use the equipment, and what do I expect the equipment life cycle to be?
2. Does the leasing agent understand the nature of my business and how this transaction and equipment will help my business?
3. What will the total amount of the lease payments add up to, and can any other costs be incurred before the lease ends?
4. What happens if I need to change the lease parameters or terminate the lease early?
5. What are my responsibilities if the equipment is damaged or destroyed?
6. What are the additional obligations related to the equipment (such as taxes, maintenance and insurance)?
7. Can the equipment be upgraded or can equipment be added to the existing lease?
8. What are the options at the end of the lease term?
9. What are the procedures for returning leased equipment?
10. Are there any extra costs expected at the end of the lease?

Finance leases are preferable for businesses looking to achieve the tax advantages of equipment ownership without the capital cost of purchase. Companies can use the cost of equipment depreciation to offset income at tax time. "If you structure the lease to get the tax benefits that limit the amount of corporate income tax you're going to pay, it can more than offset the total amount of the lease payments," Ross says. Look at the depreciation expense for the equipment, and determine the extent to which that value can offset the tax liability associated with earnings. A finance lease is also suitable for a company short on operating budget money but with room in the capital budget.

Finance leases are often long term, covering most of the useful life of the equipment. A finance lease may also be called a capital lease, especially when it is accounted for as a purchase by the lessee and as a sale or financing agreement by the lessor.

The option to return or purchase the equipment exists at the end of either lease type. With a finance lease, the lessee purchases the equipment at a predetermined amount agreed upon by the lessee and lessor, as opposed to the flexible fair market value often written into an operating lease.

Financing your IT equipment procurement is a two-stage decision. First, you must carefully evaluate your technology needs and financial situation to determine whether to lease or buy. If you decide on the former, you still have to decide which type is best for your situation. Consider carefully, weigh all the options and be prepared to do so for every technology acquisition. The parameters for each acquisition are unique, so what works in one instance might not work next time. **CIO**

Features Editor Lafe Low can be reached at lflow@cio.com.



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Four qualities, when mixed together in proper proportion, produce great leaders

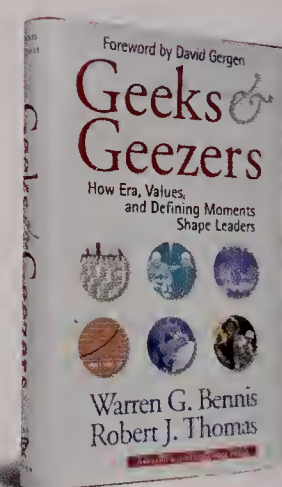
BY WARREN G. BENNIS
AND ROBERT J. THOMAS

ALCHEMY OF LEADERSHIP

We talk about crucibles and the critical role they play in shaping leaders. All our leaders, our youngest and our oldest, the geeks and the geezers, brought to their crucibles—or major challenges—four essential skills or competencies. These are the attributes that allow leaders to grow from their challenges, instead of being destroyed by them. In every case, the quality most responsible for their successful navigation of these formative experiences was their adaptive capacity—an almost magical ability to transcend adversity, with all its attendant stresses, and to emerge stronger than before. Every one of our leaders had three other essential qualities as well: the ability to engage others in shared meaning, a distinctive and compelling voice, and a sense of integrity (including a strong set of values).

The terrorist attacks on the United States in 2001 seemed to call forth just that sort of greatness. Snatched out of harm's way immediately after the assaults on the World Trade Center and the Pentagon, President George W. Bush did not get off to a distinguished start. "Where is the president?" people wondered, and understandably so. But in a matter of days a president with an uncertain mandate and a less-than-memorable oratorical style had found his voice. On Sept. 20, Bush gave a half-

Continued on Page 88



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7:00 PM - 9:00 PM
Dessert Reception & Golf Awards

MONDAY, JANUARY 27

7:00 AM - 8:00 AM
Networking Breakfast

8:00 AM - 8:15 AM
Welcome
ABBIE LUNDBERG
Editor in Chief
CIO Magazine

8:15 AM - 8:45 AM
Opening Keynote:
The Value Proposition
GREGOR BAILAR
CIO Enterprise Value Awards Judge,
and Executive Vice President &
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How do we determine "value?" Direct, measurable financial ROI is only one way – and may not be the most important measure of a new business initiative's success. Bailar has served as a judge for the Enterprise Value Awards for the past four years. He was executive vice president and CIO at Nasdaq, and vice president of advanced development for global corporate banking at Citicorp N.A. These experiences have given him broad insights into how the definition of value has shifted over the years, and if that shift continues to be reflected in this year's winners.

8:45 AM - 10:30 AM

Case Study: Don't Just Lead, Govern: Effective IT Governance
PETER WEILL

Retreat Moderator and Director,
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IT governance is the decision rights and accountability framework that can ultimately result in maximizing the value of IT throughout the enterprise.

Effective IT governance encourages and leverages the ingenuity of all the people in the organization – not just the leaders – while ensuring compliance with the organization's overall vision and goals. Weill will guide us through a real-world case study, and present findings derived from a new study of 265 enterprises in 23 countries. Retreat participants will then form small working groups over lunch to further analyze the case, and will present their own findings and recommendations to the whole audience Tuesday morning.

10:30 AM - 11:00 AM
Coffee Break

11:00 AM - 11:45 AM
Corporate Partner Industry Briefings

12:00 PM - 12:45 PM
Corporate Partner Industry Briefings

1:00 PM - 3:00 PM
Lunch & Case Study
Workgroup Breakouts

3:00 PM - 3:30 PM
Break

3:30 PM - 4:15 PM
Enterprise Value Award Winner
Presentation: U.S. Securities & Exchange Commission (SEC)
The SEC's goal: automated quick and accurate receipt, processing and dissemi-

nation of financial disclosure information filed with the SEC by public companies. SEC executives share the outcome: their Electronic Data Gathering, Analysis and Retrieval (EDGAR) system.

4:15 PM - 5:00 PM
Enterprise Value Award Winner
Presentation: Health Decisions
Health Decisions clinical and IT executives offer lessons learned from their Clinical Trials Management System, and discuss its potential impact on the process of evaluating new drugs.

5:00 PM - 5:30 PM
Special Address

5:30 PM - 7:00 PM
Networking Reception
Exchange views, best practices and challenges with your peers in a relaxed environment.

7:00 PM - 9:30 PM
Corporate Partner Hospitalitys

TUESDAY, JANUARY 28

7:00 AM - 8:00 AM
Breakfast & Informal Discussion
Roundtables
Join your peers and CIO magazine editors in informal roundtable discussions on current technology and business issues.

8:00 AM - 8:15 AM
Welcome Back
PETER WEILL

8:15 AM - 9:15 AM
Workgroup Presentations/Executive Reactions
Representatives from yesterday's case study workgroups present their findings and recommendations to their peers and to a representative from the case study company.

Awards Ceremony 2003

9:15 AM - 10:15 AM

Managing the IT Portfolio
PETER WEILL

Just like any other investment portfolio, the IT portfolio must be balanced to achieve alignment with the business strategy and the desired combination of short- and long-term payoff. Weill describes benchmarks of IT portfolios, uses video interviews with IT and business executives from UPS to illustrate how significant value is generated, and shows how some firms were able to achieve up to a 40% premium return on their IT investments.

10:15 AM - 10:45 AM

Coffee Break

10:45 AM - 11:30 AM

Enterprise Value Award Winner Presentation:
University of Illinois Medical Center at Chicago

IT and business executives discuss how their Gemini System enables electronic health records to replace all paper dealing with patient care, integrate multiple vendor products into a single-user interface, and provide ubiquitous access (including Wi-Fi) to caregivers.

11:30 AM - 12:15 PM

Corporate Partner Industry Briefings

12:15 PM - 1:45 PM

Networking Lunch

2:00 PM - 2:45 PM

Enterprise Value Award Winner Presentation:
Con-Way Transportation

Con-Way IT and business executives share their experiences developing and implementing their award-winning Linehaul Automation system, and discuss the benefit to them, their employees and their customers.

Marriott Desert Springs Resort & Spa



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2:45 PM - 3:30 PM

Enterprise Value Award Winner Presentation:
The Wharton School of the University of Pennsylvania

Academic and IT executives at The Wharton School set out to develop an Internet-based research data service for use by their own faculty and students. They discuss how the resulting system – Wharton Research Data Services (WRDS) – gave them a whole new business model.

3:30 PM - 4:15 PM

Closing Keynote: Technology, Value... & Values
JARON LANIER

Computer Scientist, Artist & Author



Lanier's wide-ranging interests and considerable talents have earned him recognition in seemingly disparate fields, including virtual reality, visual arts, software simulations and music. Here, we take advantage of his reflections on technology, society and humanity: Technology has indeed generated much value for business – but has it contributed much toward our values?

4:15 PM - 4:30 PM

Retreat Summary & Reflection
PETER WEILL

4:30 PM - 5:30 PM

Reception with Jaron Lanier

7:15 PM - 9:30 PM

Dinner and Enterprise Value Awards Ceremony

Put on your evening wear and join your peers, CIO staff and corporate partners as we celebrate the winners of this year's Enterprise Value Awards.

9:30 PM - 11:00 PM

Post-Awards Dessert Reception & Party

Dance the night away – or just mingle with colleagues old and new as we bring this year's Retreat to a close.



The Magazine for Information Executives

Continued from Page 84

hour speech to Congress and the nation that approached greatness.

The fact that we repeatedly see our leadership model at work in the world bolsters our confidence in its validity. The president's speech showed all four essential competencies of leadership: the adaptive capacity that allowed President Bush to turn even his usual verbal awkwardness into a strength, a newly found and compelling voice that allowed him to engage an entire nation and its allies through shared meaning and common purpose, and moral conviction gave his condemnation of the attacks the force of something more than political expediency.

HOW NOT TO LEAD

Bad leadership can be every bit as instructive as good. We have talked about the four competencies of leadership. You can sometimes best see those qualities in their absence. Another reason for discussing bad leadership—*failed leadership* is a kinder term—is that there is so much of it.

Take M. Douglas Ivester of Coca-Cola. Inheriting the chairmanship on the sudden death of its esteemed, longtime CEO, Roberto Goizueta, Ivester lasted just 28 months. His grasp of context was woeful. Unlike his ethnically sensitive predecessor, Ivester failed to empathize with minority employees, so much so that he demoted the highest-ranked African-American even as the company was losing a \$200 million class-action suit brought by black employees. This in Atlanta, a city with a powerful African-American majority.

This lack of emotional intelligence was not Ivester's only flaw. He also failed to grasp the importance of his presiding over the European negotiations for Orangina and responding promptly and personally to the discovery of adulterated Coke in France. Worst of all, he didn't have the ego strength to acknowledge his interpersonal weakness and name a second in command with a defter touch, as his board repeatedly urged him to do. Without damning his predecessor by name, Dou-

glas Daft, Coca-Cola's next CEO, noted that Ivester ignored an invaluable source of information within the company—the loyal contrarians who disagreed with him. Ivester discouraged dissent, even though, as Daft correctly observed, "You need a network to prevent the danger that people will stop telling you things." Daft added, "I don't just want to hear good news."

Compaq's former CEO Eckhard Pfeiffer shared many of Ivester's faults. He had an

Having a **vision** and being able to sell it is an essential task of **leadership**.

A-list of executive yes-men and a B-list of astute observers willing to speak truth to power—and he ignored the latter right out of a job. Pfeiffer refused the good counsel of those on his staff who realized Gateway and Dell were leaving Compaq in the dust by using the Internet to tailor their products to individual consumers and provide them with customer service in a keystroke. Pfeiffer not only failed to notice that other companies were gaining on his, he also failed to seize the opportunities created by the Internet as others had done. He became isolated, unable or unwilling to reach out to all but a handful of colleagues, and cut off from customers and their needs.

CREATING SHARED MEANING

Understanding context is rarely easy, and sometimes even talented leaders are destined to fail. Procter & Gamble has had a reputation for retaining CEOs more patiently than is the current norm in a world where CEO honeymoons tend to be painfully short. Former CEO Durk Jager was a man of considerable vision who saw the need to modernize the tradition-bound consumer-goods giant. Shortly after he took over in 1999, Jager announced a sweeping restructuring that he called Organization 2005. Jager planned nothing less than a cultural revolution for the huge company. Its four regional business units would be

replaced by seven global ones. Much of his plan hinged on getting the entire company, once notorious for its reliance on laboriously vetted one-page memos, wired for instant electronic communication. Fifty-four official change agents, all computer-savvy, were sent out to revolutionize its offices and plants throughout the world.

The result was Jager's precipitous and very public fall. Jager's was a classic fumble. He moved before he was able to get the rest of

the company behind his innovative plan for change—before, in the language of our model, he had engaged others by creating shared meaning. Whether the plan was a good one or not, Jager never managed to communicate the urgency and superiority of his new vision for the company. His decision to eliminate 15,000 of the corporation's 110,000 jobs undoubtedly contributed to employee resistance. Employees were further alienated when they discovered that the company had tapped the phones of three staffers suspected of revealing insider information.

Having a vision and being able to sell it is an essential task of leadership. Our geezers have become adept at galvanizing whatever organization they lead. They are able and obsessive communicators. Bob Crandall, former CEO of American Airlines, told us: "You simply cannot lead if you cannot tell the other guy what it is you want and expect." And, he added: "If you can't rouse the crowd, you cannot lead effectively." Business visionary Dee Hock, who founded Visa International, observed: "When you induce behavior, that's essential to leadership." Just as writers must find their voice, so too must leaders find an individual and persuasive voice, an authentic version of themselves that engages and recruits others. As longtime Girl Scouts of America CEO Frances Hesselbein observed, "You lead by voice."

Stripped to its essentials, leadership

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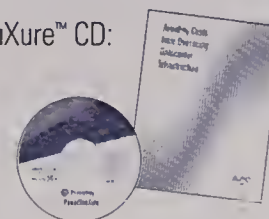
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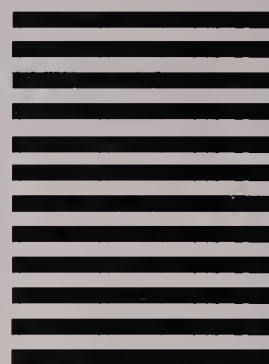
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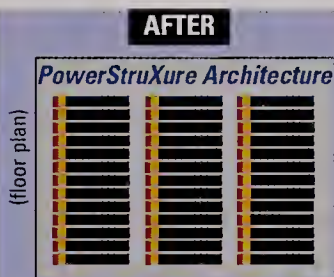
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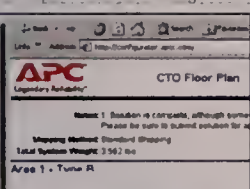


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involves just three things—a leader, followers and a common goal. Despite the relative inexperience of our geeks, many already know that their first and, in many ways, most important task is articulating their vision and making it their followers' own. Embark.com cofounder Young Shin says of

follow them. The trust that Sidney Harman's factory workers [at Harman International] put in him was not because of his religious beliefs, but because of his obvious personal integrity, the respect he showed them and his willingness to put his money into projects like piano lessons that enhanced their quality of

Leadership is always about character.

his colleagues: "A lot of leading these people...is having them buy into the vision." Dan Cunningham, founder and CEO, or Chief Chokolada, of Dan's Chocolates, uses the term *revolutionizing* to describe the process whereby he recruits employees to his vision. Teach for America's Wendy Kopp believes "the essence of leadership is mobilizing people to achieve great things."

Effective leaders don't just impose their vision on others, they recruit others to a shared vision. Especially in our digital age—when power tends to coalesce around ideas, not position—leadership is a partnership, not a sinecure.

VOICE AND CHARACTER

Leadership is always about *character*, a formidable and protean word with 26 definitions in the *American Heritage Dictionary* (Fourth Edition). Our favorite comes from William James, who famously wrote, "I have often thought that the best way to define a man's character would be to seek out the particular mental or moral attitude in which, when it came upon him, he felt himself most deeply and intensely active and alive. At such moments, there is a voice inside which speaks and says, 'This is the real me.'"

We suspect that the religious practices of our leaders are largely irrelevant to those who

life. Former Haverford College President Jack Coleman is admired, not because he is a member of the Society of Friends, but because of his willingness to walk in other people's shoes by working as a trash collector.

A number of our leaders credited family members with their moral educations. Non-violence activist Lorig Charkoudian told us that her grandparents were survivors of the Armenian genocide. "That shaped my view of the world and decisions about what I needed to do in the world," she explains. "There was a lot of hatred [in the world] and there was a lot of pain, and all that had to be responded to." Dan Cunningham's moral inspiration was the steadfast refusal of his physician father to accept rewards from drug companies for prescribing their products. Cunningham recalls that his father always focused on what was best for his patients. "It was clear that money was not the motivating factor behind his work," Cunningham says. The lesson conveyed by both his parents: "The idea is basically what you can do for others and the community, and that's where your first thought should be," he says.

THE INTEGRITY TRIPOD

The integrity of leaders is composed of three elements: ambition, competence and moral compass. Think of those three as legs of a tripod that have to be kept in balance. By ambition, we mean the desire to achieve something, whether for personal gain or the good of the community or both. Competence includes expertise and mastery of specific skills. Moral compass comprises virtues that acknowledge the individual's membership in

the large human community as well as the capacity to distinguish between good and evil. In decent leaders, instead of merely successful ones, all three elements are in balance, forming a kind of tripod. But when any single element dominates the leader's behavior and the tripod becomes too wobbly, she is at risk of lacking integrity. Take ambition. Without it, there is no vision or engine for change. Think of Enron's ethically challenged leadership, accompanied by its Arthur Andersen "auditors." Let's not mince words. Ambition, absent a moral compass, is naked destructiveness.

If competence becomes mere virtuosity, it too can become monstrous. Many of the technocrats of e-business are examples of individuals whose leadership is undermined by their overreliance on technology and their failure to develop all the important skills unrelated to their beloved machines. At their worst, they become number-crunching, green-eye-shaded statistical Vulcans.

At the outset, we referred to the Big Four qualities of leadership: adaptive capacity, engaging others through shared meaning, a distinctive voice and integrity. None of those four is especially new or unfamiliar to a reader versed in the literature on leadership. To a greater or lesser extent, they've been part of the leadership canon, but always singly. They've never been considered as a quartet of interrelated factors based on a theory of human development. This is the most thrilling discovery we made as we studied our geeks and geezers: The factors that allow an individual to lead for a lifetime are indeed identical to the qualities of adult learning discussed in the previous chapter on crucibles. Moreover, they are the same factors that make a person a healthy, fully integrated human being. [Editor's note: For management guru Jim Collins's take on leadership, see Page 104.] **CIO**

CIO.com Share your own insights on leadership or find out more, when you talk with coauthor Robert J. Thomas via **ASK THE AUTHOR**. To find the page, go to www2.cio.com/ask/author.

Warren G. Bennis is professor and founding chairman of the Leadership Institute at the University of Southern California. Robert J. Thomas is an associate partner and senior fellow with the Accenture Institute for Strategic Change.

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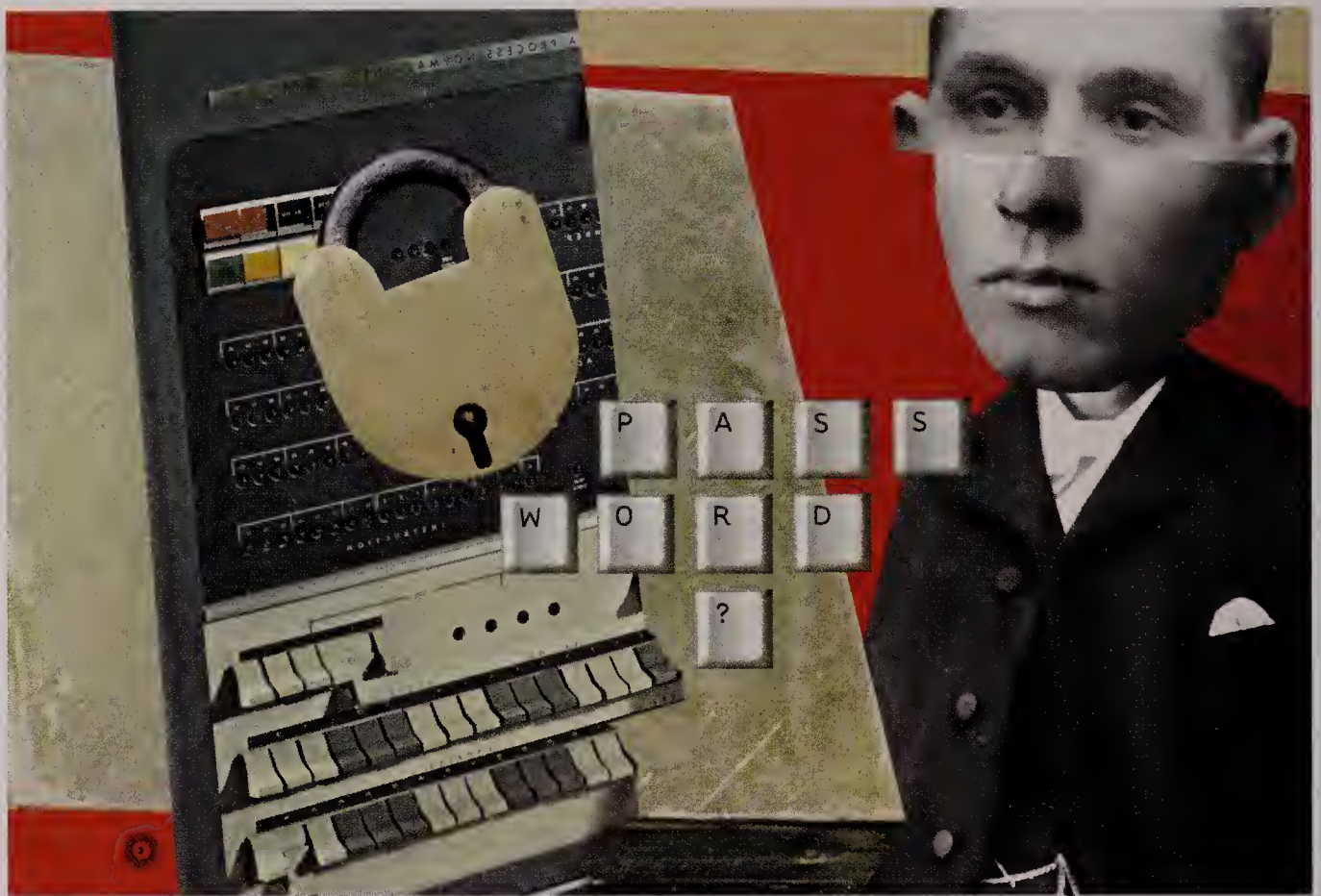
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Who Goes There?

Identity management tools can help CIOs gain control of who gets access to what and when

BY MERIDITH LEVINSON

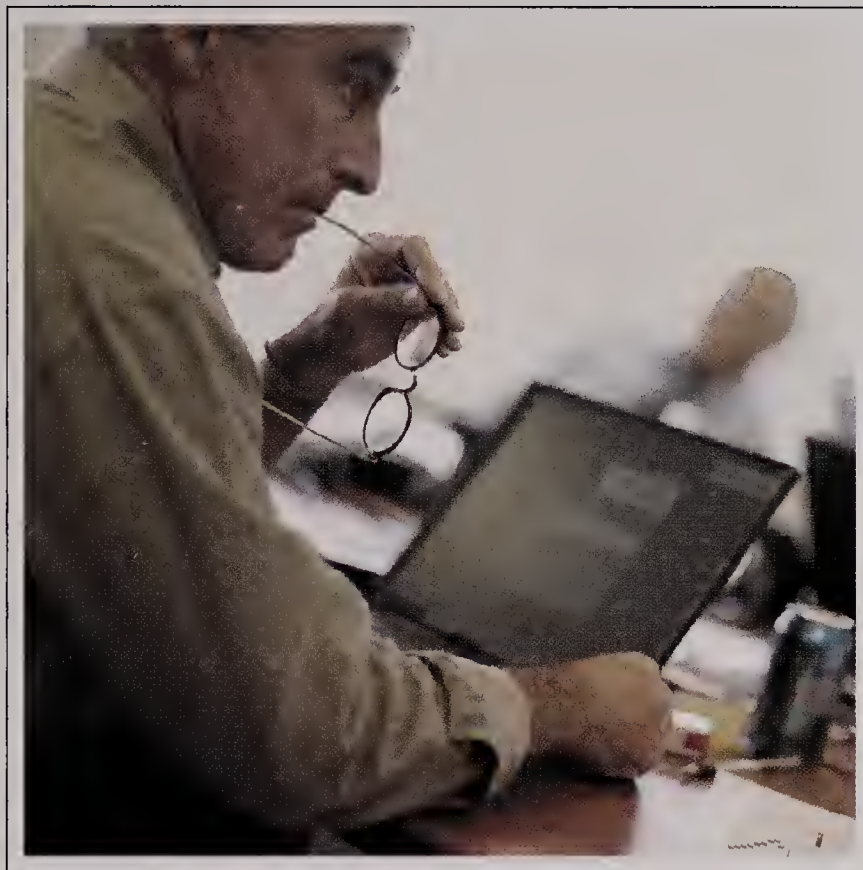
Edited by Christopher Lindquist. Send your thoughts and ideas for future columns to clindquist@cio.com.

IF YOU WANT TO KNOW how *not* to handle identity management, rent Steven Spielberg's *Minority Report*. It perfectly captures the problems that can occur when IT doesn't take proper

care of who gets access to what and when. Tom Cruise plays a fugitive cop whose organization never restricts his access to the company's building and its gee-whiz applications. Had the organ-

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ization more actively managed employee identities, it could have cut his privileges as soon as he got the boot, thereby thwarting his efforts.

While we hardly live in the high-tech world of *Minority Report*, organizations today face the same problem managing employees' access that Cruise's company did. In this age of heightened security and sensitive intellectual property, companies must be more diligent about shutting down employee access rights across the enterprise once that person leaves—and the sooner the better. Leave those accounts active, and it opens doors for hackers, not to mention the risk of having former workers access systems later on so that they can share confidential information with their new employer or other interested parties. It's a scenario that plays out

forget them, and removes user accounts when someone leaves the company or changes jobs internally. After the provisioning process comes access management, which makes sure users are who they claim to be, and then determines access privileges based on company policies or an individual's role with the organization. Single sign-on applications that let users sign on once while gaining access to multiple systems are a form of access management.

Basic Provisions

Many vendors tend to straddle both processes, but of the players that reside in the provisioning space, the most familiar names are BMC, Novell and Identity Manager from IBM/Tivoli, along with new companies such as Access360 (which

provisioning and managing passwords quickly adds up. (Provisioning systems, meanwhile, cost \$100,000 and up for pilot projects and \$1 million or more for broad enterprise rollouts.)

Management costs were certainly an issue at Burlington Northern Santa Fe Railway (BNSF) in Fort Worth, Texas. The time and resources to provision, deprovision, and modify employees' identities and access rights were getting out of hand, says Rick Perry, director of enterprise operations and security. Whenever BNSF hired a new employee, the manager in charge of that person would fill out a paper form specifying which applications the employee would need to access. The manager would then send the document to the user registration group. Oftentimes, says Perry, the information on the form was incomplete, and IT would have to call the manager for clarification. Finally, someone in the user registration group would configure every application for access by the new user. Perry says the process could take hours—or even days—depending on the type of user. As a result, the user registration group needed weeks of advance notice to have an identity and access rights ready when an employee came on board. If the group didn't get enough lead time, new hires could arrive on their first day, only to discover that they didn't have access to the systems they needed to do their job.

Deprovisioning users was an even bigger problem for BNSF, as it is for most companies that support a large seasonal workforce. In addition to the time-consuming account shut down process, the registration group always ran the risk of missing an account among all the applications that BNSF's 38,000 employees used. According to a Meta Group survey, most companies shut down access to only 10 out of an average of 16 systems employees have access to.

To combat the confusion, during the second half of 2001, BNSF began using Waveset's provisioning product, Light-house. With a few mouse clicks on the cor-

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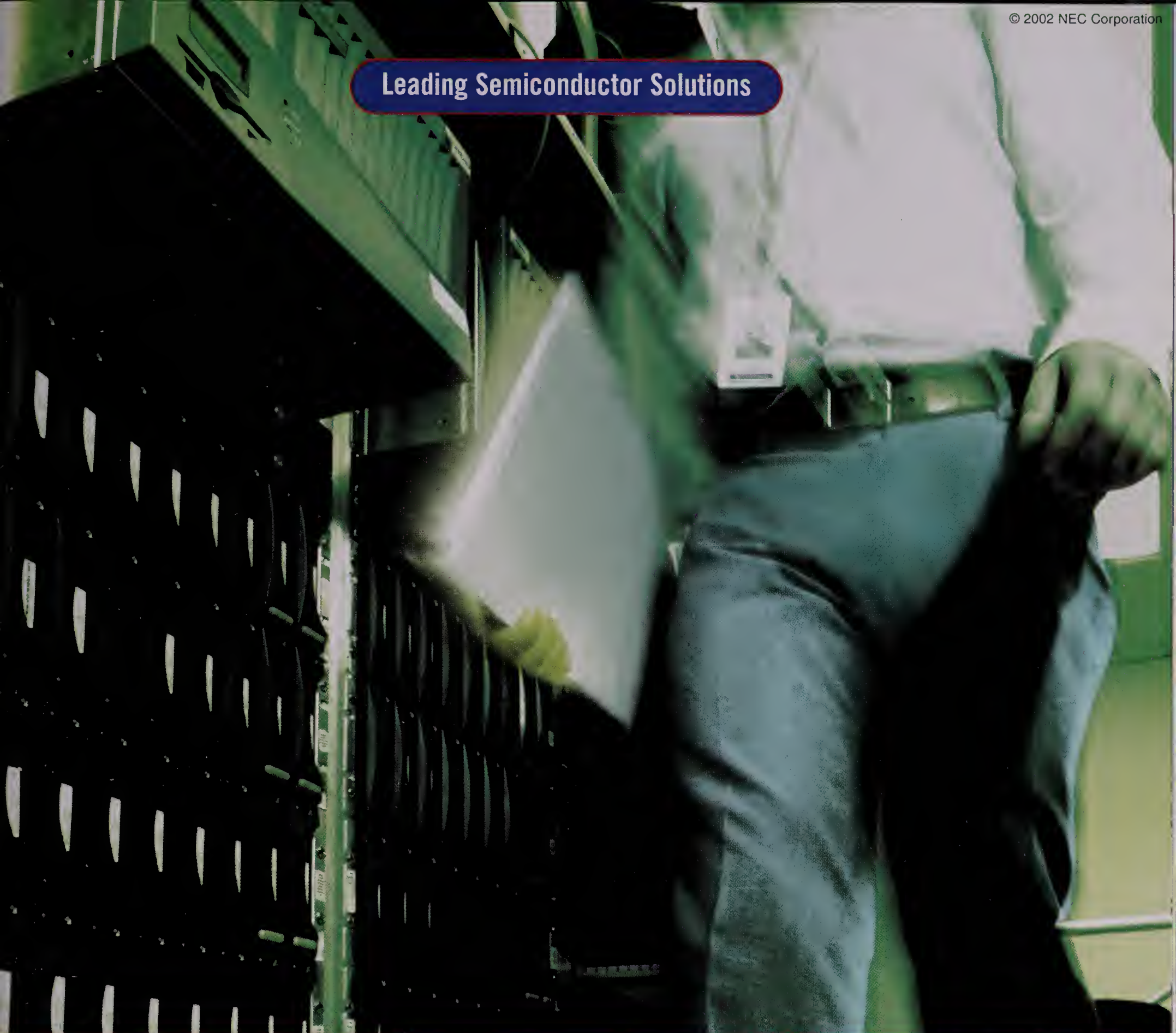
all the time, at least according to vendors in the space. "It's a common problem. It's a serious problem. Nobody would deny that it's happening, but few companies would acknowledge with anecdotal evidence that it's happening to them," says Jeff Drake, director of Tivoli Security Strategy and former executive vice president and cofounder of Access360, a subsidiary of IBM and provider of provisioning software in Irvine, Calif.

Two Sides of the Coin

Think of identity management as a combination of two processes. The first is provisioning, where IT provides employees and external partners with user names and passwords, resets passwords when users

was purchased by IBM last September), Courion, Oblix and Waveset Technologies. While their specific techniques vary, those vendors all automate and streamline the time-consuming, costly and cumbersome manual process of giving new employees identities and access rights, and changing access rights for employees who change roles in the company.

Jonathan Penn, a research director for Cambridge, Mass.-based Giga Information Group, says provisioning can save as much as 50 percent of all IT time spent on user account management, such as creating new accounts, changing accounts and disabling accounts. Add help desk costs for password resets at \$25 per incident (by Giga's estimate), and the cost of



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porate intranet, managers can quickly select which applications their new hires will be able to use. Access requests automatically proceed to any other managers who need to provide further authorization for specific applications. Then the form arrives at the user registration group, where, with another click, Lighthouse collects the form data and syncs it with the appropriate systems. "Now we can manage accounts across multiple platforms

the market is moving toward the goal of a complete, single-source identity management platform as the various players expand their product offerings. (Courion, for instance, started by providing software to automatically reset passwords, but the company now offers a variety of more advanced provisioning tools. Likewise, IBM expanded its identity management portfolio with its acquisition of Access360.)

When handled correctly, identity management can help CIOs reduce costs, better serve their internal customers and increase security.

from a single workstation," says Perry. The whole process works in reverse, as well. "When someone leaves the company, we have a single place where we can make changes without having to go to each platform," he adds.

Access Management

Once a company provisions identities and users log in to systems with their user names, passwords, biometrics, tokens or digital certificates, access management applications kick into gear. Those products—from companies such as Entegriety Solutions, Netegrity, OpenNetwork, RSA and (once again) BMC, Novell, IBM/Tivoli and Oblix—make sure users are who they say they are and prevent individuals from accessing systems they have no right to use. Like their provisioning counterparts, those applications can also be based on corporate policies or the employee's role within the company.

The crossover from provisioning to access management by some vendors isn't accidental. While many corporations currently look for best-of-breed solutions to their provisioning and management needs, some analysts and vendors believe that

That total platform has yet to appear, however, so Dallas-based supply chain software vendor i2 Technologies chose to go the best-of-breed route. The company's IT department cobbled together applications from different vendors, including Access360, for provisioning along with solutions developed in-house to build an identity management infrastructure. The foundation of the infrastructure is an enterprise directory, which consolidates identity information from most of i2's corporate systems into one place. John Frazier, director of infrastructure services, says i2 layered Oblix's NetPoint on top of the directory to control access to webpages on the corporate portal. For instance, using NetPoint, the finance department defined rules that describe which employees can access a file share the department manages and is available via the corporate portal. Those rules go into action when employees log in to the portal. If a saleswoman signs in, for instance, she

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The Tungsten T targets power PDA users. It offers a new high-power processor as well as the enhanced PalmOS 5.0. The product also features a new sliding case that closes to a compact 4-by-3-by-6-inch package when in "data retrieval" mode, but which opens nearly another inch to reveal text and numeral handwriting entry areas.

The T offers a redesigned control pad, which allows for one-handed operation. Users can also hit a single button to record voice memos.

To help eliminate wires, the Tungsten T includes built-in Bluetooth wireless support, allowing the PDA to connect to Bluetooth-enabled cell phones and other peripherals.

The Tungsten W, meanwhile, is a PDA that works on global system for mobile communication/general packet radio service (GSM/GPRS) cell phone networks. It features a small BlackBerry-like keyboard for entering text and a headset for hands-free voice communication.

Suggested retail pricing for the T model is \$499 and \$549 (without activation) for the W. For more information, visit www.palm.com.

—Christopher Lindquist

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won't get access to the file share because her user name and password will match up with the identity information in the corporate directory and with the access rights defined in NetPoint. The benefit of this approach is that i2 can simply define access rights by group, rather than having to do it all on a person-by-person basis.

Not So New

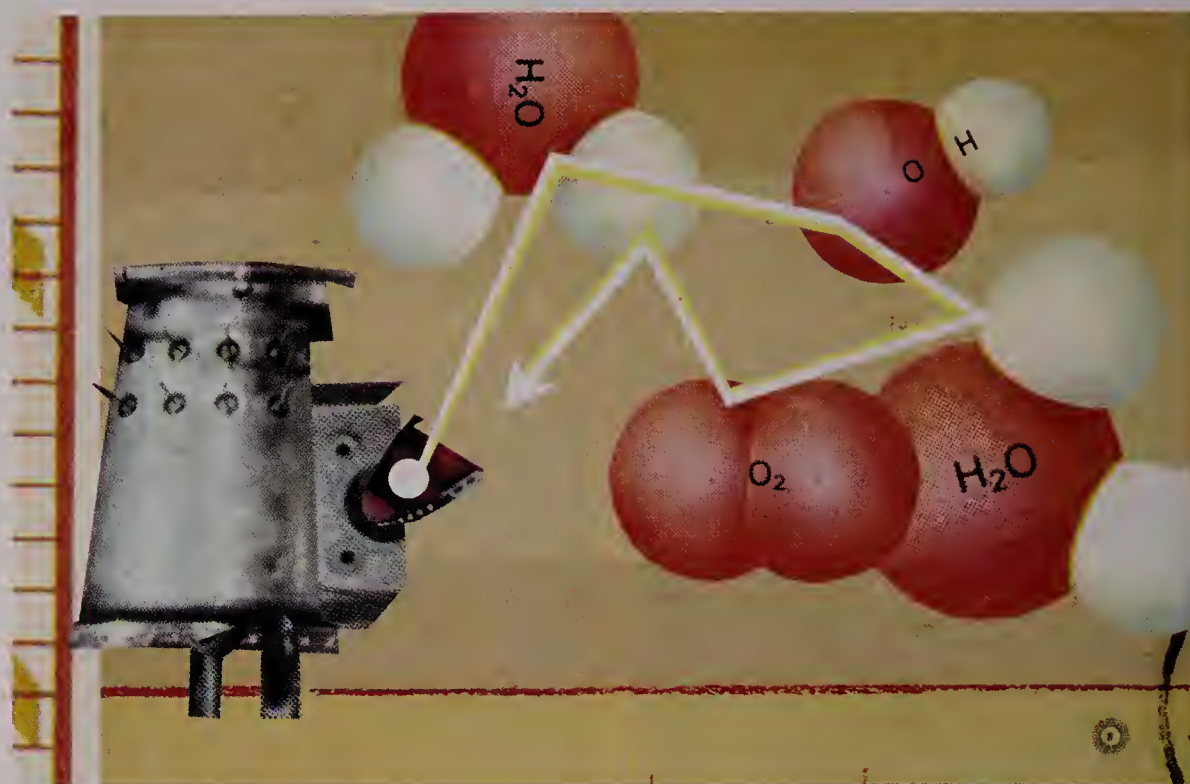
If this notion of managing users and their access to systems from a single place sounds familiar, it should. Identity management is "a new name for an old concept," says Chris King, an analyst with Meta Group based in Burlingame, Calif. IBM even had an access management offering in the 1970s called Rack F Remote Access Facility. The reason why the topic is getting so much attention these days, according to vendors and analysts, is because it combines three benefits—security, efficiency and productivity. And right now, all three are in vogue with IT, according to King.

It's easy to understand why that's the case. When handled correctly, identity management can help CIOs reduce costs, better serve their internal customers and increase security.

"All of this is geared toward efficiency and making [IT] easier to do business with," says BNSF's Perry.

Automating provisioning and access management also relieves IT workers of having to respond to niggling requests for new passwords, and frees them up to work on more strategic projects, as was the case at i2. After addressing the company's identity management woes, i2's IT group was able to focus its time and effort on high-priority projects for the company, including a sales-force automation system. Says i2's Frazier, "At the end of the day, that's what our internal customers want more than anything—for us to give them tools that make their lives better and easier." ■

Senior Writer Meridith Levinson can be reached at mlevinson@cio.com.



UNDER DEVELOPMENT

Nanoantennae

When Every Molecule Counts

IT DOESN'T TAKE MUCH anthrax to make a person sick—perhaps just one bad molecule among trillions of good molecules. But a group of electrical engineers at Purdue University hope that their research could lead to ultrasensitive sensors capable of detecting a single molecule of a biological agent or chemical pollutant.

Known as nanoantennae, these tiny sensors would use the light reflected off a substance to determine its molecular makeup. "Molecules irradiate light in a certain way that bears information about their structure," says Vladimir Shalaev, a professor at Purdue's School of Electrical and Computer Engineering in West Lafayette, Ind. "By learning about molecules, we can get lots of important information. We can diagnose how much and what kind of molecules you have in the atmosphere, in water, in blood—everywhere."

Although Shalaev and his group are far from creating specific devices, they have done mathematical simulations proving that tiny metallic nanoantennae about 10 nanometers thick could look at individual molecules. They have already created the nanoantennae and have begun experiments. In the next one to three years, they plan to further advance the technology for real use.

The research could lead to detectors millions of times more sensitive than current technology. "Right now, devices aren't that sensitive. There are no commercial devices that can detect single molecules," Shalaev says, noting that even a dog's nose is more sensitive than current man-made technology.

The nanoantennae could be used to detect pollution in its very early stages, dangerous chemical or biological warfare agents in very small amounts, or certain proteins in blood indicating the early stage of a disease. Medical professionals could also use the technology for diagnostic imaging that would be less invasive than current devices such as X-rays.

—Sarah D. Scalet

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COMPANY TO WATCH

Sigaba

For Your Eyes Only

Sigaba's technology can help keep communications under wraps

BY JULIE HANSON

ELECTRONIC COMMUNICATION has gone from merely a convenient way to send short notes among business associates to a method of transmitting financial statements, boardroom decisions, legal documents and even extremely personal health-care material. But with standard e-mail, no one can ever be sure that those crucial attachments and confidential data are being read by only the intended recipient.

Sigaba, however, has an alternative. Its products use "key server" technologies to secure messages through easily downloadable plug-ins for desktop users and Web decryption technologies. Use the tools, Sigaba claims, and you can be sure that your information will be secure.

Sigaba was founded by Robert E. Cook, now acting chairman and CEO, who is a man familiar with the role of leading a startup. Cook's other ventures include Web services company Gainskeeper; Systems Center, which sold to Sterling Software; and the supply chain software company Web-Methods. The company takes its name from the Sigaba encryption machine used by the United States during World War II, the only device of its kind that was never compromised by an enemy.

Sigaba's products have the same goal in mind. But while some highly secure products require users to deal with multiple passwords, key cards, biometrics, and multiple steps between creation and delivery, Sigaba integrates seamlessly into most popular e-mail applications such as Microsoft Outlook. The biggest change users may see is the addition of a Send Securely button. On the receiving end, users who have already downloaded

Sigaba

Headquarters San Mateo, Calif.

Parent company Secure Data in Motion

Founded June 2000

Employees 40

2001 revenue NA

Products Secure E-mail and Statement Delivery

Reason to watch With e-mail—and e-mail security—becoming ever-more critical (and in some cases mandated by law), products like those from Sigaba have a ready-made market.

Hurdles With a small staff and a large market to tackle, Sigaba may struggle with getting noticed in a competitive field.

Website www.sigaba.com

Sigaba's plug-in decryption technology merely open the message like any other. Anyone without the plug-in gets walked through authentication via an HTML attachment.

Sigaba's products can be installed in less than 10 minutes, and administrators can choose between systemwide gateway security or individual desktop protection. Information never leaves a machine during the encryption process, and from everyone else's point of view, it looks like a regular e-mail. Sigaba can secure information sent via RIM BlackBerry messaging devices, and its Statement Delivery product can securely send bank statements, lab reports or brokerage statements in HTML format.

Affordability is also key during a time when security is a must—but so is pleasing the CFO. Sigaba's applications package lists at \$50,000 for 100-user installations, which includes gateway protection and as many plug-ins as you want. To secure 500 users, the price jumps to around \$60,000.

But Sigaba is not without competition, says Joyce Graff, vice president and research director of e-mail at Gartner. Graff estimates that there are at least 100 companies in this market that have been slow to ramp up, but are now on the move because of security and privacy legislature, pending Health Insurance Portability and Accountability Act regulations and a general desire by executives to better secure electronic communication. "There a lot of people in the secure messaging space, and a lot are very small and very hungry," says Graff.

But according to Graff, Sigaba is on the right path. The key to succeeding in this tight market is to create a secure e-mail product that is easy to install, easy to use and secure enough to protect. Graff claims that Sigaba's Secure E-mail has been able to do just that.

And Sigaba is already securing significant clients, such as Cascade Bank, Citi-wide Banks, Lancaster General Hospital and Siemens. Jon Zimmerman, vice president of eHealth at Siemens, evaluated half a dozen companies before he decided Sigaba would be the company he recommends to his clients. "We went through a significant search to determine that Sigaba has technology that was adoptable and useful, and supported the increasing regulatory environment of health care," says Zimmerman.

Some of the top five hospitals in the country are beta testing Sigaba, according to Zimmerman, who says the products' ability to adapt to the user's environment, cost factor and ease of use are what puts them over the top. ■

Do you know of a company to watch? Send it to clindquist@cio.com.

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PUNDIT

Future of search

Finding the Future

Intranet search tools must break some ties to their Internet cousins

BY DICK STENMARK

THE PROBLEM OF FINDING relevant information—a problem that we all know too well from the Internet—is now reoccurring on corporate intranets. Security concerns prevent public search engines from indexing sources behind corporate firewalls, so companies have had to implement their own search solutions. That has created a new market, not just for public search services, but also for intranet search products. But while search engines have existed for years, they haven't improved much. A few new features, more efficient spiders and improved ranking algorithms exist perhaps, but on a conceptual level today's search technology offers nearly the same functionality as did the work of the first pioneers.

Worse, the search engine industry and the research community alike often fail to acknowledge that intranets are not just downscaled versions of the Internet, but are instead a whole different environment in terms of both content and culture. We use the same technology to build both, but the contexts in which they operate are entirely different. Ideas not feasible on the Internet—because of size, incentive or integrity considerations—might make perfect sense on an intranet.

Searching, it seems, is tacitly assumed to be carried out by an anonymous and unidentified individual in isolation. That may be the case on the Internet but not necessarily so on a corporate intranet. Instead, that assumption is at odds with my observations at Volvo in which work is increasingly carried out not by isolated individuals but by (virtual) teams of coworkers. Even if the tool I'm using does



Intranets are not just downscaled versions of the Internet.

—Dick Stenmark

not find any relevant information, there might still be other users with similar experiences that I could talk to—but most search tools wouldn't tell me about them.

In a business environment, for example, where users are colleagues striving toward a common goal, sharing your queries and results with your coworkers is probably less of an issue than it would be on the open Internet. The search tool is often the only natural focal point in a large intranet, and by leveraging the search activities

employees already engage in, companies can benefit greatly without violating the privacy of the individuals or requiring them to do additional work.

Another example is the corporate users' need to continuously monitor a particular topic or field. When the search engine crawls the intranet to detect updates and additions, instead of merely adding those to the index it should also compare the documents to previously saved search profiles. Users with "interest profiles" matching the documents could then be notified of the new material. My research at Volvo shows that such a feature would off-load the employees and save time. I have also found that such user profiles can successfully be used to make employees aware of each other, visualize communities of interests, and indicate new and emerging areas of competence within the company.

Those are all capabilities not traditionally expected from a search engine, yet they are tightly related to searching and finding. Intranet owners must start to ask for search products specifically designed for intranet use and, more important, that fit the work environment at their company. If the differences between Internet and intranet were better understood and more deeply exploited, we could start to see more profound changes to search engines—changes that would not just extrapolate the current solutions but break away beyond the information retrieval paradigm in new and creative ways.

Much of the technology needed for the necessary enhancements is already available but not utilized in today's search tools. We, in dialogue with our vendors, need to continue integrating search with our other business applications. It is time to move beyond rudimentary search implementations and leverage the full potential of powerful search tools—even if that requires out-of-the-box thinking. **CIO**

Dick Stenmark heads Internet and intranet search solutions at Volvo Information Technology and has been engaged in Web searching since 1996.

Can microscopic innovations impact an entire enterprise?

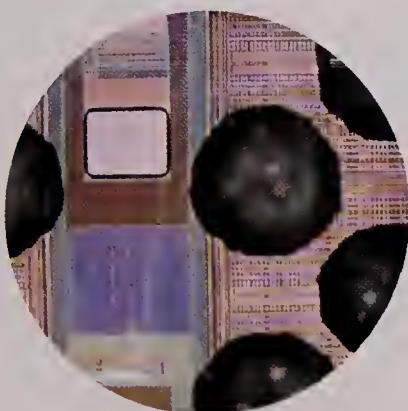


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Reader Q&A: Survive the thousand cuts

How comfortable do you find the hot seat? E-mail Leadership and Management Editor Edward Prewitt at hotseat@cio.com.

The Utility of Humility

Think you know what leadership is? Management guru Jim Collins might beg to differ.

BY EDWARD PREWITT

As one CEO after another comes under attack for hubris, malfeasance or just plain-old greed, the once vibrant cult of the Great Leader has fallen into disrepute. And so too have the reputations of many management gurus who not so long ago called charismatic leadership the sine qua non of any enterprise success story. In 2000, celebrity management consultant Gary Hamel, for example, celebrated the passion and courage of Enron's leaders in the pages of this magazine, calling theirs "a noble cause." (See "Revolt or Perish," available online at www.cio.com/printlinks.)

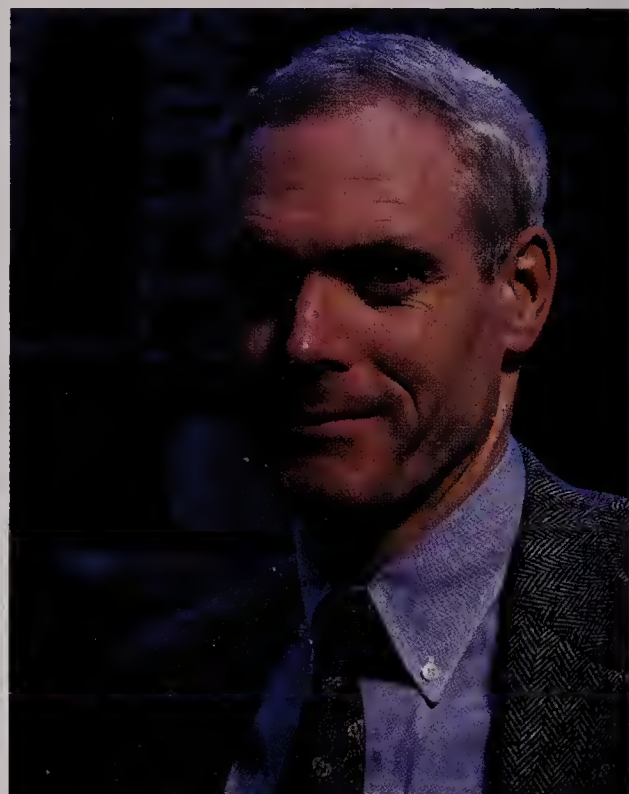
One business commentator, however, has been distrustful of leaders all along: Jim Collins. In his two best-selling books, *Good to Great: Why Some Companies Make the Leap...and Others Don't* (HarperCollins, 2001) and *Built to Last: Successful Habits of Visionary Companies* (HarperCollins, 1994, coauthored with Jerry Porras), Collins consistently has downplayed the importance of leadership to organizational success.

Bringing hard research to bear on what has heretofore been a moral debate, Collins has concluded that the self-serving, charismatic magazine cover boys who once served as role models for ambitious managers in fact make rather poor leaders. Good leaders, he says, know how to get out of the way of their followers.

Although Collins's focus is on the CEO, his observations about good leaders, and the paths they take to the executive suite, hold lessons for CIOs. In an interview with *CIO*, Collins talked about the practice of leadership and how leaders should be identified and chosen.

The Great (Man) Debate

In conducting research for *Good to Great*, which profiles the differences between merely good companies and a handful of great ones, Collins found that some CEOs excel in setting priorities but are modest about the part they play in achieving those goals. He terms them



Jim Collins, a former business school professor turned self-employed business researcher, says the best leaders turn the spotlight away from themselves.

Level 5 leaders—the highest rung in his hierarchy (see "Which Level Are You On?" Page 106).

Collins, a former professor at Stanford University's business school, returned to his picturesque hometown of Boulder, Colo., to found his own "management laboratory," where he employs a staff of researchers to uncover the secrets of great companies. "When we interviewed all of the people who were parts of the man-

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Hot Seat

agement [of companies that made the transition from good to great], they would all be talking about the incredible role that the CEO played,” Collins says. “But when we interviewed those CEOs, you would’ve thought that they weren’t there. The way they talked, it was as if they had just been sitting there while all of this amazing stuff happened around them. They never said things like, ‘I did this’ or ‘This was my strategy.’ They pointed back at all of these other people.”

This characteristic diffidence found in Level 5 leaders does not mean their leadership is inconsequential. Quite the contrary. “It’s very important to have the right person in that position,” Collins says. “We’ve seen examples recently where, even if you have a great organization, the wrong people in positions of executive power can destroy it.”

Anti-Level 5 leaders use their company as a personal platform. One current exemplar might be Dennis Kozlowski, who gutted Tyco International to satisfy an itch for aggressive deal-making.

Another researcher, Harvard Business School assistant professor Rakesh Khurana, has sounded a similarly cautionary note on the dangers of charismatic leaders. In his recent book, *Searching for a Corporate Savior: The Irrational Quest for Charismatic CEOs* (Princeton University Press, 2002), Khurana makes the case that charismatic CEOs tend to lead their company down a destructive path, either by so dazzling the board of directors that it fails to perform its oversight function diligently, or by setting up their company to crash after they leave—thereby making people wistful for the departed leader.

Not all management gurus are ready to give up on the great-man type of leader. Michael Maccoby, a psychotherapist and author on leadership, characterizes

humble-but-excellent Level 5 leaders as suited only for staid companies. And, in fact, the majority of Collins’s list of good-to-great companies is composed of such slow-but-steadies as Gillette, Kimberly-Clark, Kroger, Pitney Bowes and Walgreens. Maccoby thinks uncharismatic CEOs are unlikely to do well at companies that thrive on innovation—companies like Cisco Systems, Intel and Oracle.

Maccoby calls the type of leader most able to lead trailblazing companies—indeed, the type driven to create such

ated an environment of extraordinary motivation,” he says. But they did so quietly. “There is a big difference between motivation and motivating,” Collins says. “It is very insulting to say, ‘I’m going to motivate you,’ as if you’re this unmotivated lump of human flesh.” Instead, Level 5 leaders move their followers by setting an example.

“These people were of such extraordinary integrity and of such inspired standards that that became a magnet for others,” Collins says. His paragons are

JIM COLLINS'S FIVE LEVELS OF LEADERSHIP

Which level are you on?

LEVEL 5 THE LEVEL 5 EXECUTIVE

Builds enduring greatness through a blend of personal humility and professional will.

LEVEL 4 EFFECTIVE LEADER

Catalyzes commitment to and vigorous pursuit of a clear and compelling vision, stimulating higher performance standards.

LEVEL 3 COMPETENT MANAGER

Organizes people and resources toward the effective and efficient pursuit of predetermined objectives.

LEVEL 2 CONTRIBUTING TEAM MEMBER

Contributes individual capabilities to the achievement of group objectives and works effectively with others in a group setting.

LEVEL 1 HIGHLY CAPABLE INDIVIDUAL

Makes productive contributions through talent, knowledge, skills and good work habits.

SOURCE: GOOD TO GREAT: WHY SOME COMPANIES MAKE THE LEAP...AND OTHERS DON'T (HARPERCOLLINS, 2001)

companies—the productive narcissist and mentions Jack Welch as an example. Productive narcissists combine inflated self-regard with obsessive attention to process. Those leaders, not Level 5 types, says Maccoby, are singularly able to inspire the troops to stretch themselves in pursuit of their visionary goals.

Collins disputes assertions that Level 5 leaders cannot inspire employees to greatness. The leaders in his study “cre-

CEOs such as Ken Iverson (formerly of Nucor), Colman Mockler (formerly of Gillette) and Darwin Smith (formerly of Kimberly-Clark). All led their employees to enormous success, yet they weren’t driven to become household names—which is partly why, in Collins’s view, they were successful. (For more on what make great leaders, see “The Alchemy of Leadership,” Page 84.)

As for Welch, his halo has been tar-

A woman with a determined expression is running across a dry, grassy field. She is wearing a light-colored jacket, a patterned scarf, and khaki pants. She is carrying a laptop under her arm. In the background, a military-style helicopter is landing or taking off, kicking up dust. The sky is overcast.

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Hot Seat

nished somewhat by the reports of his over-the-top retirement package. And GE has floundered while his handpicked successor

has struggled under the burden of...not being Jack Welch. The traumatic impact on the enterprise of having to replace a charismatic leader is one of the dangers that Collins and Khurana warn about.

How to Be a Collins Leader

Though none of the CEOs profiled in *Good to Great* came up through the IT ranks, Collins see no reason why CIOs couldn't become Level 5 leaders. His exemplars had varied backgrounds—Iverson was a plant manager, for example; Mockler rose through the finance group; and Smith came up through the legal department. (All but one of the 11 Level 5 CEOs in Collins's study lacked MBA degrees—a lacuna in their résumés they share with many CIOs.)

What Level 5 leaders do have in common is a set of character traits that Collins says is predictive of success.

Humility. More than just niceness, humility reveals that the leader understands that no one person can create a great organization. "Do [potential leaders] have the proper relationship to the window and the mirror so that when talking about results, they point out the window [at others], but when asked about screwups and things that went bad, they point to the mirror?" Collins asks.

Aligned values. "The individual must share at a gut level the core values of the institution," Collins says. He believes it's very difficult, if not impossible, for leaders to excel if their personal values are incompatible with those espoused by the organization.

Results. Great leaders combine character with competence. "There have to be results," Collins says. The outstanding companies in *Good to Great* achieved

MANAGEMENT BRIEFS Claim the Throne

Why IT execs are suited for CEOdom

CIOs aren't built to lead companies, so the stereotype goes. Their overly analytical mind-set, lack of social skills and limited strategic sense mean that attainment of the CIO title is the apex of an IT worker's career.

But now comes a study from Santa Clara University challenging that conception, saying that IT executives have been incorrectly typecast and—by dint of both personality and training—are remarkably well-suited to claim the CEO throne.

Coauthors Peter S. DeLisi and Ron Danielson used the InQ psychology test, which categorizes thinking styles according to how people process information, to survey 339 mid- and executive-level IT professionals from companies in various industries and the public sector. To the researchers' surprise, the IT execs scored low in the analyst category. Instead, they tested strongest in the idealist and pragmatist categories, which denote a big-picture, action-oriented mind-set.

"That puts [the surveyed IT executives] in the same sort of thinking styles as CEOs," says DeLisi, who is academic dean of the IT Leadership Program at the Santa Clara, Calif.-based school. "We thought that they would test as analysts. [The test-takers] even perceived themselves as analysts."

Yet no other corporate executive has a better knowledge than CIOs of

how the enterprise works, say DeLisi and Danielson, an associate professor of computer engineering who is also the university's CIO. While finance and human resources department heads can have equivalent organizationwide perspectives, they don't have the detailed level of understanding that IT executives do. "Neither [CFOs nor HR heads] can explain how a customer order gets converted into a manufacturing process, and from there into subsequent logistical, financial

and service systems," reads the study, which is titled "I Think I Am, Therefore...": An Inquiry into the Thinking Styles of IT Executives and Professionals." Indeed, with a broad view of the business and a lack of allegiance to any single function, the CIO has a perspective comparable to that of the CEO.

The preconception that IT executives lack the capabilities to lead is not only a missed opportunity for organizations, it also has been detrimental to CIOs' careers. They miss out on job assignments and opportunities for advancement, say the researchers.

So how can CIOs spread the message that they are ready to lead? DeLisi and Danielson offer two overarching suggestions: CIOs should hone executive-level skills by, for example, volunteering to head up major initiatives, and they should familiarize themselves with all aspects of the business.

—Daniel J. Horgan



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stock returns that were an average of 6.9 times the results of the general market for at least 15 years.

In contrast, General Electric, which has been a benchmark for high-performing companies in America, outperformed the market by 2.8 times from 1985 to 2000. (Although Collins uses equity returns as his yardstick, his metric is anything but short-term. The median of the extraordinary year-over-year results turned in by his 11 companies is 24 years.)

Enduring excellence. Great leaders not only achieve excellent results, they also succeed at a more difficult challenge: The groups they lead continue to flourish after their departure. In other words, these leaders set up their enterprises for long-term success.

That, for Collins, is the leadership litmus test. "If you had to pick one does-this-person-have-it-or-not question, that's

"Great leaders never said things like, 'I did this' or 'This was my strategy.' They pointed back at all of these other people."

—Management author Jim Collins

the real test," he says. It's also the most difficult test by far, since lasting results depend on the actions of many other people and factors that are beyond the leader's control. But that's what Level 5 leaders do: They put people and the organization in a position to succeed. **CIO**

Can CIOs become Level 5 leaders? E-mail your thoughts to Leadership and Management Editor Edward Prewitt at hotseat@cio.com.

Leadership Agenda BY SUSAN H. CRAMM

The CIO's Green Mile

Ease the pain of your budget presentation



It's the CIO's green mile—that long walk to the annual budget meeting, where you try to justify the ever-escalating cost of ongoing IT operations to a jaded senior executive team. In preparation for the meeting, you toiled over the numbers, pared them to the bone and tried to make them understandable in a bunch of three-color charts. But during your presentation, no matter what you

say, the CFO and other executives act like you are holding them hostage. The meeting ends (finally), and you get an amount you can live with (barely). Thank God it's over—for now.

The cost of "lights on" IT—including computer operations, networking, customer support and mandatory maintenance—is a huge part of the IT spend, often 60 percent to 80 percent of the total. Truth be told, you don't quite feel on top of these expenditures and you experience more than just a little guilt as you walk the annual green mile. But you have your hands busy managing projects and keeping operations stable and customers happy—where would you find the time to dig into that great morass?

It's difficult, but I think you can do it. At some point (which could come sooner rather than later in this economy), you will be asked to cut your expenses or hold them flat while delivering new technical capabilities. To avoid finding an electric chair at the end of the green mile (as in the Stephen King novel and the film of the same name), try some of these tactics.

MANDATE PRODUCTIVITY IMPROVEMENTS. Tell your direct reports that they will have to deliver productivity improvements of 5 percent to 10 percent year-in and year-out. Make sure they know their "lights on" costs and productivity targets—in dollars—and build the targets into their performance objectives.

INSTITUTE MONTHLY FORECASTING. You can avoid unpleasant surprises by getting a firm grip on spending that you're committed to. Require regular forecasts from your IT staff and explanations for the differences between expected numbers and actuals.

TRACK YOUR COSTS. Your IT managers should understand and measure the primary cost drivers within their areas of responsibility. They should pinpoint where Pareto's Law is located in their numbers—for example, which 20 percent of the applications, help desk calls or technologies suck up 80 percent of IT costs? Once that is understood, your staff should identify the drivers of those costs (for instance, the number of help desk calls resolved during the first call) and track improvement over time.

REJECT BAD MONEY. Don't accept funding for new IT projects unless the powers-that-be understand the total cost of ownership and have committed to



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see the projects through. Sticker shock on software maintenance combined with lingering questions about the

business value of IT projects have placed many a CIO in the doghouse. Get your CFO to cap funding for enhancements and divvy up the money by business unit or function. This token mechanism will help ensure that business units prioritize enhancements (which usually have marginal returns), and in turn, it will limit your overhead of managing a multitude of smaller initiatives.

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VARIABLE. There are few things more aggravating than paying for capacity when you don't need it. If you are running multiple help desks, data centers, network operations centers, software maintenance groups, servers, storage devices and so on, consolidate them and outsource to gain critical mass and leverage your spending. Rather than automatically filling open positions, try to fill only strategic jobs. Establish flexible staffing arrangements so that your capacity and costs can vary with demand.

PUSH STANDARDS. Technology standards reduce costs and make your job easier. If your organization loves standards and has lots of them, you can build a nice business case on the use of standards to lower support costs and improve pricing. When it comes to refreshing your software, don't be victimized by vendors' release plans—hold on to old versions until your technical people break a sweat.

CHARGE FOR VARIABLE SERVICES.

Remember that if the price is zero, demand is infinite. Charge for the services where you can truly influence demand (as opposed to the classic mainframe allocation), such as PCs,

telecommunications and moves/adds/changes.

Apart from serving cocktails, you can do nothing to make the annual budgeting process a pleasant experience. But as an ex-CFO, I can guarantee that a bunch of three-color graphs showing a steady decrease in the cost per unit of IT operations will make the walk to the budget meeting more like a walk in the park.

Reader Q&A

Susan H. Cramm answers questions on "The CIO's Green Mile"

Q: I need to save some money in this last quarter. What can I do without endangering the business?

A: In these "death by a thousand cuts" economic times, the mandate to save occurs more and more often. Since real productivity improvements are elusive in the short term, you need to set a savings target and go after the relatively easy stuff (not that doing so is easy to swallow), including travel, offsite meetings, unfilled open positions, favorable budget variances and such nonlabor expenses as software, upgrades and equipment purchases.

Next, focus on cutting projects and service levels. All projects without a strong business case should be halted or delayed. Contingent labor should be reduced. If you have turned some of your fixed costs to variable costs by outsourcing, it's now time to renegotiate rates and markups, and determine how costs could change with varying usage levels and cycle times.

Q: What tasks should IT departments outsource, and what percentage of total IT dollars should be outsourced?

A: There is no one-size-fits-all answer to your question. Please see one of my

previous columns, "The Dark Side of Outsourcing," at www.cio.com/printlinks, to review the areas that should not be outsourced. By keeping the important work in-house and outsourcing everything else, an IT department could outsource as much as 85 percent of its total dollars. In that scenario, however, total IT costs would probably be no lower than if a more measured approach to outsourcing were employed.

Q: How does the service-level-agreement (SLA) process tie in to budgeting? You mention technology standards, but what about processes for problem management and so on?

A: SLAs can be very effective during the budgeting process if (and only if) you can provide cost and pricing alternatives at different service levels. For example, I have one client in my coaching practice who provides a very high level of desk-side support at a high cost. It is his job to provide the information necessary for the business to determine the appropriate trade-offs between cost and quality.

Standard processes are an important cost management technique because they help improve quality and reduce cycle times. If benchmarking and Pareto analysis indicate subpar performance in a high-cost area, then process improvements are a good idea for cost management. But make sure you measure improvements and focus on changing a few things at a time. Otherwise, process improvement can become like "boiling the ocean." **CIO**

To ask Susan H. Cramm questions, go to www.cio.com/leadership/agenda.html. Cramm, a former CIO at Taco Bell and former CFO at the Chevys restaurant chain, is president of Valuedance, an executive coaching firm based in San Clemente, Calif. Her e-mail address is shcramm@aol.com.

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Career Counsel

Mark Polansky Offers Advice to Aspiring CIOs and IT Managers

To B (School) or Not to B (School)

That is the question when it comes to deciding how best to further your career

AS FREQUENT READERS of this column can attest, I am an outspoken advocate of the MBA as an important professional credential—and candidate differentiator—for CIOs and other senior IT leaders. But before you ask, Should I get an MBA? you need to ask another question: What are my primary areas of interest, and what are my career goals and aspirations?

For business application builders and future chief information officers—even for sitting CIOs (it is *never* too late)—an MBA demonstrates a serious attitude toward learning and self-improvement, and substantiates an interest in and an aptitude for business issues. It also establishes an academic foundation for what CEOs expect from CIOs: proactive leveraging of technology for the competitive and operational advantage of the enterprise and its bottom line.

In particular, if your baccalaureate education was technically oriented, complementing that background and bolstering your business knowledge with an essential understanding of management, economics, finance, marketing, manufacturing and distribution will set you apart from the pack. It will also increase your marketability and promotability, and enhance



your earning potential by opening the doors to more and bigger opportunities. However, if you are currently the top-ranked IT executive at your company but are functioning less as a CIO and more as an IS director, you must reevaluate your strengths, weaknesses and career objectives before answering the MBA question. There may need to be an important job change on your professional agenda first.

Q. Will a master's degree do?

A. Supplementing a technical bachelor's degree with an MS degree in any major will tend to further brand you as a techie. If you started out with a sheepskin in the liberal arts, social sciences or business, there's not much point in getting a second BS or even an MS in a technical discipline. Instead, move forward and upward toward an MBA, perhaps in a very business-oriented IS concentration. Your on-the-job experience—sup-

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Career Counsel

plemented by carefully chosen seminars and MBA electives—will likely be more than sufficient technical training to reach a CIO career goal. In this case, use your job as your technical school while you get the advanced business training needed from your MBA experience.

For technologists and future CTOs who are more comfortable reading product specs than corporate business plans, the graduate degree of choice is more likely to be an MS in information systems. Unless you are a die-hard techie, judiciously use elective courses to expose yourself to business subjects in order to prepare yourself for meaningful participation in issues resolution and alignment of technology, and for the CTO's ultimate responsibility of architecting and deploying an enterprise infrastructure to support the CIO's strategic IT plan.

Q. How should I get my MBA?

A. Having made a positive MBA decision, there are several choices for how to proceed. The options include: 1. take night classes at a local college or university; 2. find an executive MBA program that usually runs biweekly on Friday or weekend combinations, plus a residential on-campus week or two during the summer; 3. take time off to go back to school full-time; or 4. find the newer distance or “distributed learning” programs of courses at locations remote from your school of choice, or in the comfort of your home via the Internet.

The most common choice is the part-time approach. It saves time, is cost-effective, and employer sponsorship is usually available. Select a reasonable “stretch” school that will challenge you. Obviously in this scenario you are constrained by the choice of local institutions that are within easy commute.

CIO.com For more answers about your career or to pose your own questions, visit the online **CAREER COUNSELOR** at www.cio.com/executive/counselor.html.

If your company does not have much experience with executive MBAs, your biggest tasks will be to convince management—and your-

self—that you can juggle your workload and to assure the company that it will get its money's worth for the investment it makes on your behalf. Traveling to executive programs for long weekends will expand your institutional possibilities. Many of the executive MBA programs at the better schools are highly regarded and hold as much weight as full-time degrees from midtier schools.

Alternatively, options 3 and 4 yield choices of schools that may be otherwise unavailable by virtue of geography. IT professionals who leave the workforce and return to campus to earn their MBAs full-time, as is almost always the case with top tier B-schools and typically in entrepreneurial programs, often do not reenter IT after graduation. Instead, they find themselves able to parlay their strong combination of technol-

ogy experience and a gilt-edged MBA into excellent business opportunities. Those that do return to IT generally find themselves on the fast track to CIO and beyond. This is clearly the most expensive way to go, but the ROI in knowledge, network building and résumé market appeal is highly bankable.

Lastly, ever since the online-only school, Jones International University, became the first “college without walls” to receive official accreditation as a graduate business school, several traditional institutions and consortia of highly regarded schools (for example, Cardean University, www.cardean.edu) have followed with their own brand of bricks-and-clicks MBAs. However, these programs are relatively new, and there is reluctance on the part of recruiters and employers to give them full respect. They also lack face-to-face peer networking.

Q. Should I specialize in one particular area?

A. Most B-school graduate programs require the selection of an area of concentration; choose one that is particularly interesting to you. Go with an MBA in IS only if the curriculum is highly business focused or if you already have a bachelor's degree in business. You can opt for the more general MBA in management if you don't have a favorite topic. Regarding electives, a good rule of thumb is to balance your undergraduate degree and your career experience with learning that covers new ground. For example, if you earned your BS in IS and came up the ranks as a manufacturing application developer, take at least one course in finance and in marketing.

Your elective courses are perhaps the most significant curricular decisions to be made. I recommend taking the foundation-level or survey course in each of the major categories, such as finance, economics, marketing and management, to obtain a broad base of business knowledge. As you make your way through the smorgasbord of 101 courses you have selected, you may discover a personal passion and elect to concentrate or take additional advanced courses in that field.

Q. Will it be worth it?

A. Having the discipline to follow through on your decision to get an MBA is an impressive and winning character trait. It's true that any journey begins with the first step. So start researching your options to make your resolution a reality. The personal and professional rewards are waiting for you. **CIO**

Mark Polansky is a managing director and member of the advanced technology practice of Korn/Ferry International in New York City. He is also the chairman of the Greater New York Chapter of the Society for Information Management. The Web-based Executive Career Counselor column is edited by Web Research Manager Kathleen Kotwica (kkotwica@cio.com).



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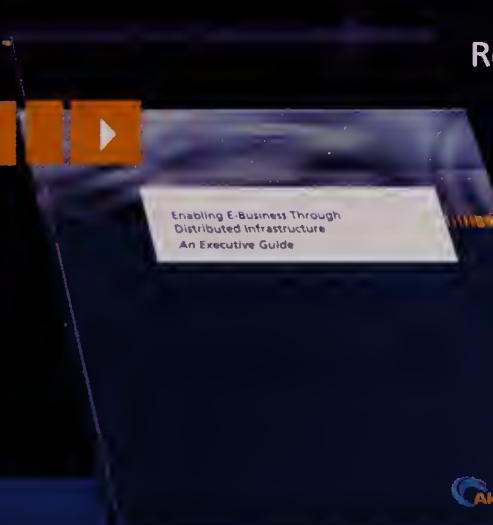
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EXECUTIVE Summaries

DECEMBER 1, 2002

COVER STORY | Homeland Security

By Todd Datz | 44

The IT leaders of the Office of Homeland Security must integrate the hundreds of systems in the 22 agencies that make up the proposed department. Plus, they must convince 170,000 workers to act as members of a holistic enterprise. Homeland Security Senior Director of Information Integration Steve Cooper and Senior Adviser Jim Flyzik break their challenge into four tasks: designing a new architecture, modernizing the legacy systems, establishing a workable model for knowledge-sharing and bridging the cultural chasms among agencies. The key to choosing architecture will be mapping processes in critical areas such as border security and first response. Middleware, enterprise application integration tools and Web services will be used to stitch the essential applications together. To streamline knowledge-sharing, Cooper and Flyzik will resort to "capture once, reuse many." Still, to pull this off could take years—which, in terrorist time, could be too long.

"I think it's long overdue that somebody take a look at the government from a functional view instead of an agency-by-agency view. In the end we'll not only have a more secure country, we'll have a more efficient government."

—JIM FLYZIK, SENIOR ADVISER,
OFFICE OF HOMELAND SECURITY

Wireless Payoffs

By Ben Worthen | 53

CIOs' EXPECTATIONS FOR WIRELESS have dropped about as fast as the Dow Jones as they've been burned by technological shortcomings—insufficient bandwidth, lack of security protocols and spotty coverage as well as projects targeted at phantom audiences. But companies such as Air Canada, Southern Wine and Spirits, and Birmingham-Nashville Express have found ways to make wireless not only work but pay off. Their formula boils down to this: Start with a clearly stated problem and deploy the most direct solution. Equipping workers and providing access to information isn't enough; devices and data exchange must be tested and tailored to fit specific needs. And wireless projects don't need every bell and whistle; don't spend a fortune integrating always-connected devices with real-time data exchange when daily syncs will do.

Portals New and Improved

By Elana Varon | 70

THE LATEST PORTAL PRODUCTS can be integrated with enterprise applications such as ERP, CRM and electronic procurement. As a result, companies are deploying portals to support strategic business initiatives and using them as tools for managing enterprise applications. Portals can help CIOs get more out of enterprise systems by hiding complexity from technologically inexperienced end users. Cigna's portal integrates data from multiple health-care and retirement benefit plans in an effort to increase sagging market share. With the economy in decline, Maysteel couldn't afford a new ERP system, so it opted for a portal application that lets executives and quality control staff access the ERP data they need. One of Pratt & Whitney's 100 portal-supported applications allowed the company to reduce the time it takes to overhaul an engine by 30 percent. Pratt is using the performance improvement as a selling point to expand its engine-repair business.

Hardware Leasing

By Lafe Low | 78

THE NUMBER OF COMPANIES leasing rather than buying hardware has grown recently, prompted by the scarcity of purchase capital, the ability to keep certain leases off the balance sheet and, of course, the flexibility. But deciding when to lease and what kind of lease to commit to requires careful assessment of such factors as fair market value, tax liability, depreciation and interest rates. You must have a good idea of how long you will need the equipment and what kind of lease you want. A finance lease requires you to pay out the full value of the leased equipment plus interest. An operating lease has limits on the length and the total value of payments, so that the lessee does not pay for the full value of the equipment. It's not treated as a depreciating hard asset but rather as an operating expense. Remember, though, it can be difficult to extend the lease period or end it early without incurring penalties.

Emerging Technology: Identity Management

By Meridith Levinson | 92

A LOT OF ATTENTION these days is focused on identity management because it combines three benefits—security, efficiency and productivity. Identity management is itself a combination of two processes—provisioning and access management. With the former, IT provides employees and external partners with user names and passwords, resetting passwords when users forget them and removing user accounts as needed. Access management makes sure users are who they claim to be, and then determines access privileges based on company policies or an individual's role. Vendor tools automate and streamline these time-consuming and often neglected activities. While many corporations currently look for best-of-breed tools, some believe that the market is moving toward a complete, single-source identity management platform as the various vendors expand their offerings.



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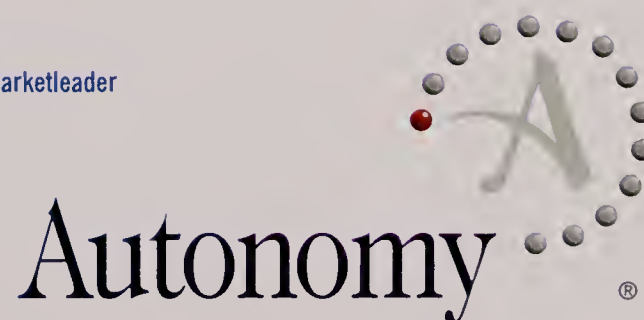
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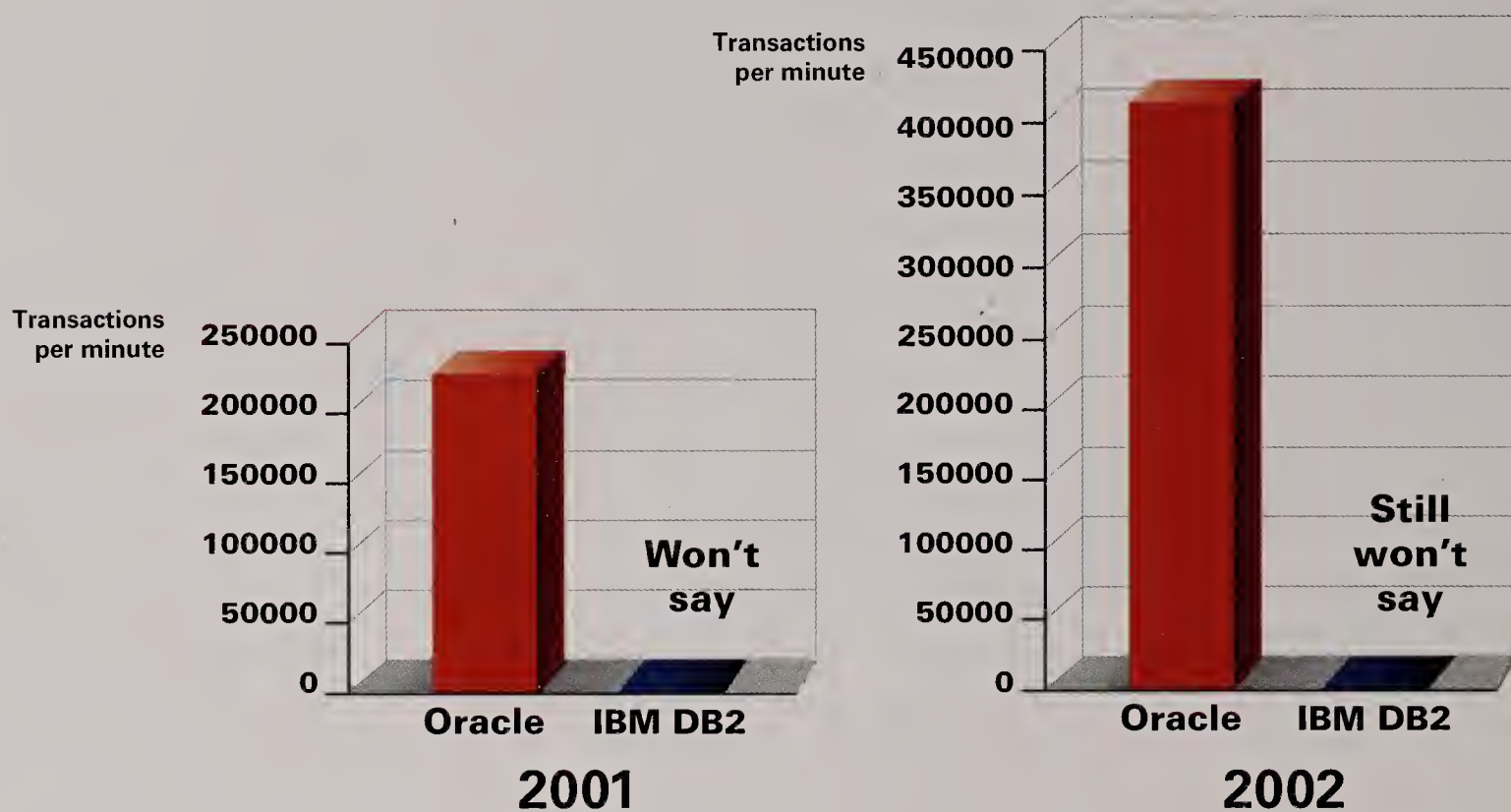


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